DOCUMENT RESUME

ED 145 666 EC 102 691

AUTHOR	Remboldt, Raymond R., Comp.; Roth, Beth, Comp.
TITLE	Cerebral Palsy and Related Developmental Disabilities--Prevention and Early Care. An Annotated Bibliography. Volume V, 1975.
INSTITUTION	National Center on Educational Media and Materials for the Handicapped, Columbus, Ohio.
SPONS AGENCY	American Academy for Cerebral Palsy, Washington, D.C.; Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C. Media Services and Captioned Films Branch.; Iowa Univ., Iowa City. Univ. Hospital School.
REPORT NO	NC-77.903
PUB DATE	77
CONTRACT	300-72-4478
NOTE	186p.; Includes items published from 1974 through 1975; For other volumes in the series, see EC 111 160 - ED 111 162 and EC 102 690
AVAILABLE FROM	Publication Sales Division, Ohio State University Press, 2070 Neil Avenue, Columbus, Ohio 43210 ($2.50)
EDRS PRICE	MF-$0.83 HC-$10.03 Plus Postage.
DESCRIPTORS	Annotated Bibliographies; *Cerebral Palsy; *Developmental Disabilities; Early Childhood Education; Infancy; *Intervention; *Prevention

ABSTRACT

The fifth in a series of annotated bibliographies contains 533 citations (1974 - 1975) on the prevention of and early intervention with cerebral palsy and developmental disabilities. Resulting from a search of the scientific and public education literature, entries are arranged alphabetically by author's name and include information on title, source, date, pagination and a brief annotation. (CL)

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CEREBRAL PALSY AND RELATED DEVELOPMENTAL DISABILITIES--PREVENTION AND EARLY CARE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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An Annotated Bibliography

Volume V

1975
(Includes Items Published from 1974 through 1975)

Compiled by

RAYMOND R. REMBOLT, M.D., and BETH ROTH, M.A.

NATIONAL CENTER ON EDUCATIONAL MEDIA AND MATERIALS FOR THE HANDICAPPED
The Ohio State University
1977

Distributed by
Publications Sales Division
OHIO STATE UNIVERSITY PRESS
2070 Neil Avenue
Columbus, Ohio

EC102691

The National Center on Educatonal Media and Materials for the Handicapped (NCEMMH) in cooperation with the national system of learning resource centers, professional associations, various other public and private agencies, and interested individuals provides a comprehensive program of activities to facilitate the use of new educational technology in instructional programs for handicapped persons. NCEMMH provides leadership and service in the development, design, and dissemination of learning resources that are effective for the handicapped.

The Center is funded under Contract OEC-300-72-4478 by the Bureau of Education for the Handicapped, U.S. Office of Education, Department of Health, Education, and Welfare. The contract is administered through the College of Education and the Research Foundation of The Ohio State University.

This document was prepared pursuant to a contract with the U.S. Office of Education, Department of Health, Education, and Welfare, Bureau of Education for the Handicapped. Contractors undertaking such projects under government sponsorship are encouraged to express their judgment freely in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

Publication number: NC-77.903
Publication date: June, 1977

FOREWORD

Cerebral Palsy and Related Developmental Disabilities--Prevention and Early Care: An Annotated Bibliography, Volume V, compiled by Raymond R. Rembolt, M.D. and Beth Roth, M.A. was sponsored by the American Academy for Cerebral Palsy and by the University Hospital School, University of Iowa, Iowa City, Iowa. Volume I (1971) includes annotations from published material from before 1964 through 1971. Volume II (1972) includes materials from 1968 through 1972. Volume III (1973) encompasses published material especially through 1972 and 1973. More than 84 percent of the material in Volume IV (1974) was published in 1974. More than 88 percent of the annotations in Volume V (1976) cite materials published in 1975.

A panel of experts appointed by the National Center on Educational Media and Materials for the Handicapped (NCEMMH) to review the bibliography recommended that NCEMMH arrange for its publication. Therefore, as a service to all personnel working with handicapped young children--educators, physicians, and researchers--NCEMMH has provided for its publication, and, with the assistance of the Ohio State University Press, for its nationwide distribution on a nonprofit cost recovery basis.

PREFACE

This series of annotated bibliographies began in 1971 with selection and organization of pertinent literature published no later than 1972. Each of the now-published five volumes is concerned with literature pertaining to prevention and early care for young children who have cerebral palsy or related developmental disabilities secondary to brain dysfunction.

Through the successive preparation of this five-volume series, each published volume has made it possible to present more current information in a sequential fashion, with the volumes appearing a little more than a year apart. Accordingly, in this current volume, which contains 533 annotated bibliographic items chosen from the literature, 88 percent of the articles were chosen from 1975 publications and only 12 percent from those in 1974. Incidentally, the 533 entries in this edition brings the total number of annotations in the series to 3,050.

Increasingly, it appears that more basic publications are being published in the literature relative to a wide range of aspects pertaining to cerebral palsy and related developmental disabilities, such as "fetal undergrowth," adverse brain development, poor nutrition in the mother's pregnancy, fetal lung maturation, prenatal development, effects of biological and socioeconomic factors, fetal breathing, consideration of various methods of treatment, and many other pertinent topics. Many other relevant subjects are also included.

All volumes in the series have been published by the National Center on Educational Media and Materials for the Handicapped at the Ohio State University, with which staff it has been a pleasure to work, and are available through its distributor, The Ohio State University Press. In Volume V, as in the previous volumes, Mrs. Beth Roth has again been responsible for major aspects of the project as it concerns seeking pertinent publications and preparing relevant annotations therefrom. Typing and arranging of the material have been accomplished largely by Miss Bonnie Knowles. Preparation of the data for publication has been completed at the University Hospital School, University of Iowa. The authors are deeply grateful to these aforementioned people for their help and to others who have contributed to this project in other ways.

Raymond R. Rembolt
University Hospital School
University of Iowa
Iowa City, Iowa
March 3, 1977

1. Abbott, John C., and Sabatino, David A.: "Teacher-Mom Intervention with Academic High-Risk Preschool Children," *Exceptional Children*, 41:267-269, January, 1975.

A study was conducted to assess the value of using mothers as teachers for their own preschool high risk children. A group of 50 perceptually handicapped four and five year olds were selected with 25 children comprising an experimental group, while the other 25 children served as controls. These children, their families, and the intervention procedure used are described. Mothers in the experimental program participated in parent training sessions and spent a mean number of 525 minutes in parent-child work sessions during the study period. The Frostig Program for the Development of Visual Perception was used with the experimental group. Findings indicated that this group "demonstrated significant gains...on the Frostig Developmental Test of Visual Perception in comparison with the control group." Improvements noted by the parents in their children over the ten week period of the program are listed.

2. Abeson, Alan; Bolick, Nancy; and Hass, Jayne: "A Primer on Due Process: Education Decisions for Handicapped Children," *Exceptional Children*, 42:68-74, October, 1975.

Contained in this article are excerpts from a new publication of The Council for Exceptional Children which deals with mandates, resulting from litigation and legislation, "that state and local education agencies guarantee due process protection to handicapped children in all matters pertaining to their identification, evaluation, and educational placement." Aspects considered in this article are the right to an education, the requirement that handicapped children be placed in the least restrictive alternative educational setting, due process and sequential procedures required, the selection of effective hearing officers, the parent surrogate, and the implications of due process for agencies of public education. Information on obtaining the full publication is provided.

3. Abraham, Ronald D., and Vanace, Peter W.: "Mobility for a Multidisabled Child," *Archives of Physical Medicine and Rehabilitation*, 56:365-369, August, 1975.

Described and pictured is a plastic laminated body jacket and an electric wheelchair with head and mouth controls designed for a child with arthrogryposis multiplex congenita. "We hope this prototype, with or without modification, might be considered in the rehabilitation process of other multidisabled persons regardless of etiology."

4. Adamsons, Karlis, and Fox, Howard A., eds.: *Preventability of Perinatal Injury*. New York: Alan R. Liss, 1975. 229 pp. (Progress in Clinical and Biological Research, Volume 2.)

This volume contains the proceedings of a symposium held in March, 1974 in New York City that was jointly sponsored by the Mount Sinai School of Medicine and the National Foundation-March of Dimes. Papers were selected to be included in this book and are presented under the headings of perinatal injuries, the fetus at risk, the neonate at risk, and resources for prevention of perinatal injury. There are frequent reference lists, and the contributions are indexed.

5. Adebonojo, Festus O.: "Hematologic Status of Urban Black Children in Philadelphia," *Clinical Pediatrics*, 13:874-888, October, 1974.

Data are presented on 1,559 urban black children, ages six months to 18 years, who participated in the Children's Hospital Children and Youth Project in Philadelphia and who, through participation in this Project, were examined between July, 1972 and March, 1973. Findings are presented "with respect to the distribution and incidence of the frequently encountered hemoglobins, the incidence of G6PD deficiency, the mean values of different hematologic indices and whole blood lead, and the relationships of these values to one another."

6. Adinolfi, Anna; Adinolfi, M.; and Lessof, M.H.: "Alpha-Feto-Protein During Development and in Disease," *Journal of Medical Genetics*, 12:138-151, June, 1975.

Aspects considered in this review article include methods used to detect and measure alpha-feto-protein (AFP) in human sera, the properties of AFP in amniotic fluid, the structure and biological function of AFP, AFP levels in certain disease states including cancer of the liver, and amniotic fluid levels of AFP in neural-tube defects, and fetal and placental distress. There is a lengthy bibliography.

7. Aladjem, Silvio, ed.: *Risks in the Practice of Modern Obstetrics*. Second edition. St. Louis: C.V. Mosby, 1975. 425 pp.

This volume contains significant revisions of and additions to the first edition published in 1972. Included among the contributions are chapters dealing with prenatal risks, risks of fetal monitoring, prenatal diagnostic and therapeutic risks, prenatal drug problems, risks involved in surgical complications of pregnancy, risks of obstetric anesthesia, postpartum risks, and risks in the treatment of infertility. There are a total of seventeen chapters. Bibliographies follow every contribution with some being very lengthy. There are both author and subject indexes.

8. Albrecht, H.; Bokelmann, J.; Morgenstern, J.; and Schmidt, H.: "Some Remarks Concerning the Fetal Heart Rate Total Dip Areas," *Journal of Perinatal Medicine*, 3:226-230, 1975.

An investigation was conducted to determine "whether the sum total of the dip areas 60 minutes prior to delivery is an evaluating parameter for judging the fetal state." With methods described cardiotokograms were computed from a selected group of 62 deliveries of normal newborns and 40 deliveries of infants "with a pathological newborn state." Only those cardiotokograms with at least two decelerations were included in the study. Numerous descriptive dip parameters were determined including amplitude, duration, area, lag time, recovery time and fluctuation. Findings were compared between the two groups of newborns. The results indicated that "the sum of total dip areas alone does not appear to be a sufficient FHR parameter for evaluating the fetal state. Evaluation is significantly improved by considering simultaneously several descriptive parameters."

9. Alford, Charles A., Jr.; Stagno, Sergio; and Reynolds, David W.: "Diagnosis of Chronic Perinatal Infections," *American Journal of Diseases of Children*, 129: 455-463, April, 1975.

Problems in such diagnoses are discussed and diagnostic principles in chronic perinatal infections are reviewed. The following maternal infections are considered: rubella, toxoplasmosis, cytomegalovirus, herpesvirus hominis, and syphilis. "Important features to be determined whenever possible include type of infection (primary, reinfection, or reactivation), location of the infectious agent (bloodstream or genital tract), and gestational age of the time of occurrence." The evaluation of the infants and children is then discussed, including clinical and laboratory evaluation and the use of screening tests to determine increased IgM levels in infants. "Diagnosis of maternal infection would be the ideal approach to detection of perinatal infections in the newborn, and greater efforts in this direction should be made in the future. After all, diagnosis of congenitally acquired infections is really a retrospective maneuver that leads to a substantial delay in coping with the real problem, namely, that of the fetal involvement."

10. Altschuler, Sherry L.; Pidcoe, Susan I.; and Moss, Bernice B.: "Oral Eating Device for Food Placement," *American Journal of Occupational Therapy*, 29:229, April, 1975.

Described and pictured is a tubular plunger device with an anterior scoop that allows for food to be picked up and placed posteriorly in the mouth. It is suggested that such a utensil might be useful in the training of retarded children and tongue-thrusting cerebral palsied children.

11. Altshuler, Geoffrey; Russell, Peter; and Ermocilla, Rufino: "The Placental Pathology of Small-for-Gestational Age Infants," *American Journal of Obstetrics and Gynecology*, 121:351-359, February 1, 1975.

Of 2,200 placentas examined by a complete gross and light microscopy evaluation at the Cincinnati General Hospital, 63 were associated with singleton small-for-gestational-age (SGA) infants. Of the 63 SGA infants, nine died in the neonatal period, and one died at age three months. Of the 63 placentas, 58 were found to have abnormalities. The placental pathology and clinicopathologic correlations in these 63 cases are described. Placental 'circulatory disturbances' were found in 27 (43%) of the 63 placentas, and in 16 of these 27 there was a clinical history of pre-eclampsia of pregnancy. "Approximately 25 per cent of the placentas showed villitis of unknown etiology. This is presumed to be of infectious etiology, probably viral." Findings are discussed and considered in relation to other studies.

12. American Academy of Pediatrics. Action Committee on Minimum Necessary Surveillance of the Child with Myelomeningocele. "Myelomeningocele: Suggested Minimal Urological Evaluation and Surveillance," *Pediatrics*, 56:477-478, September, 1975.

A minimal standard plan for the urological evaluation and surveillance of the child with myelomeningocele is presented.

13. American Academy of Pediatrics. "The Susceptibility of the Fetus and Child to Chemical Pollutants," Supplement to *Pediatrics*, 53:5:PartII:777-862, May, 1974.

Contained in this Supplement are the proceedings of a conference held on this subject and sponsored by the Academy, Committee on Environmental Hazards in cooperation with the National Institute of Child Health and Human Development and the National Institute of Environmental Health Sciences. The conference was held at Browns Lake, Wisconsin in June, 1973. Papers presented by participants at the conference are included along with highlights of general discussion sessions.

14. Anastasiow, Nicholas J., and Mansergh, Gilbert P.: "Teaching Skills in Early Childhood Programs," *Exceptional Children*, 41:309-317, February, 1975.

The basic concepts of early childhood education programs are considered, and three models of such programs are explored. These are behavior modification, normal developmental, and cognitive developmental. Similarities and differences among these approaches are noted and discussed. A table is included in which are listed the degree of structure, the view of the child, and the proponents and practitioners of each of these three educational approaches. "Early childhood programs for handicapped children have drawn on the models described in this article. The behavior modification approach has become very popular among the programs; however, most preschool programs for handicapped children draw upon some notions of the normal developmental approach in addition to prescribing treatment programs....In our opinion, few Piagetian programs currently exist. We hope that the discussion provided in this article will assist future directors of preschools in developing programs that are internally consistent and draw upon a philosophy of education that matches the goals and objectives of the model center."

15. Anderson, Frank M.: "Occult Spinal Dysraphism: A Series of 73 Cases," *Pediatrics*, 55:826-835, June, 1975.

Occult spinal dysraphism is described, and a plan of classification is presented. A series of 73 patients, ages one day to 17 years, is reviewed as to symptoms and findings, roentegenographic findings, and treatment. Anatomical drawings and X-ray illustrations are included. "In general, these concealed lesions arise from developmental variants in the most distal part of the neural tube, a situation which may cause distortion or partial absence of neural tissues and also lead to damage from compression or traction. Lipomyelomeningocele and congenital dermal sinus are two examples of the many types of such lesions, but some are more complicated, and borderline myelomeningocele-like forms occur. Incontinence, deformity or weakness of the feet, impaired gait, and other difficulties may appear late and increase with growth. Surgical treatment is advised to reduce chances of delayed or progressive loss of function."

16. Anttolainen, I.; Similä, S.; and Wallgren, E.I.: "Effect of Seasonal Variation in Daylight on Bilirubin Level in Premature Infants," *Archives of Disease in Childhood*, 50:156-517, February, 1975.

This effect was studied in Finland, where there are great seasonal variations in daylight length, using 86 preterm infants (birthweight <2500 g) born

consecutively in one calendar year. These infants were divided into two groups according to birth date: the light group born between March and August and the dark group born between September and February. "A significantly lower bilirubin value from the fifth day of life onwards was recorded in the group of infants born during the light half of the year, compared with the infants born during the dark half of the year. Only 4 infants developed total bilirubin levels higher than 225 µmol/l in the 'light group', as compared with 10 in the 'dark group'. 2 infants in the light group required exchange transfusion, while 4 in the dark group did. It is concluded that natural light conditions are of importance in the design of wards for newborn infants."

17. Arias, Fernando: "Expansion of Intravascular Volume and Fetal Outcome in Patients with Chronic Hypertension and Pregnancy," *American Journal of Obstetrics and Gynecology*, 123:610-616, November 15, 1975.

Blood volume was measured at between 25 and 40 weeks of gestation in 20 multiparous women having chronic hypertension. Blood volume values were also obtained from ten control multiparous patients. Findings are presented with regard to perinatal outcome, fetal weight, blood volume, serum creatinine values, creatinine clearance values, the correlation found between blood volume and fetal weight, and the relationship found between perinatal outcome and three different systems of classifying chronic hypertension and pregnancy. With regard to perinatal outcome, of the 20 patients, three delivered stillborn infants, six delivered premature but adequate-for-gestational age (AGA) infants, five delivered small-for-gestational age (SGA) infants, and six delivered term AGA infants. "Hypertensive patients had both reduced blood volume and infants of smaller weight ($p < 0.01$) than nonhypertensive control subjects. There was a significant difference ($p < 0.01$) in degree of blood volume expansion in hypertensive mothers who were delivered of infants who were adequate for gestational age (AGA), term, or premature, compared to those who were delivered of infants who were small for gestational age (SGA) or stillborn." The findings from the study suggested "that measurement of blood volume and endogenous creatinine clearance in patients with chronic hypertension and pregnancy is a useful parameter in the identification of those patients who will have a poor fetal outcome."

18. Arrowsmith, W.A.; Payne, R.B.; and Littlewood, J.M.: "Comparison of Treatments for Congenital Nonobstructive Nonhaemolytic Hyperbilirubinaemia," *Archives of Disease in Childhood*, 50:197-201, March, 1975.

Described is a case history including detailed treatment of a female patient having Crigler-Najjar disease and surviving at age two years with no neurological damage. The use of phototherapy has kept the serum bilirubin levels usually between 14 and 19 mg/100 ml. Although prolonged hospitalization for the phototherapy has been necessary, mental and physical development have been normal. An investigation was conducted to search for supplementary treatments by giving each of the following treatments described for three weeks with at least three weeks between each treatment: aspartic acid, a high fat diet, phenobarbitone, uridine di-phosphoglucose, cholestyramine, and agar. Serum bilirubin levels were monitored as described. Findings indicated that "cholestyramine and a high fat diet were effective, and possibly also aspartic acid. Maitenance therapy with cholestyramine allowed the amount of phototherapy given to be reduced."

19. Arroyave, Guillermo: "Nutrition in Pregnancy in Central America and Panama," *American Journal of Diseases of Children*, 129:427-430, April, 1975.

Studies on this subject are reviewed, and findings are summarized regarding the dietary patterns and nutrient intake of these women during pregnancy and the biochemical-nutritional characteristics of their diets. It is concluded that "in countries where malnutrition and infection are prevalent, such as those of Central America, pregnant women and the general population exhibit nutritional deficits of calories, protein, vitamin A, riboflavin, iron, and folates. However, deficits of iron and calories are greater in pregnant women than in the general population. Newborn infants of malnourished mothers reflect in some respects the biochemical abnormalities of their mothers."

20. Arroyo, J., and Méndez-Bauer, C.: "The Maintenance of a Stable Baseline in Intra-Uterine Pressure with Varying Maternal Position - A Practical Approach," *Journal of Perinatal Medicine*, 3:129-131, 1975.

Research and methods of measuring intra-uterine pressure are reviewed. Advantages are listed of a described method of monitoring intra-uterine pressure whereby the pressure transducer is attached to an area close to the fundus of the uterus with tape. This method compensates for the changes in the zero level that occur with changes in maternal position. Also the catheter is short, and fewer antifacts are recorded.

21. Atkins, Judith A., and Chapman, Rebecca L.: "Occupational Therapy in a Myelomeningocele Clinic," *American Journal of Occupational Therapy*, 29:403-406, August, 1975.

"This paper is an attempt to fill a gap in the literature on the occupational therapist's role in the treatment of the child with myelomeningocele." The condition is defined, and the setting of the Myelomeningocele Clinic at James Whitcomb Riley Hospital For Children in Indianapolis is described. Approximately 400 children are treated in the clinic on a weekly basis. The role of the occupational therapist in five areas of treatment of these children is discussed. These areas are developmental appraisal, feeding, equipment usage, upper extremity strength and function, and behavior.

22. Aubry, Richard H.; Rouke, James E.; Cuenca, Violeta G.; and Marshall, Linda D.: "The Random Urine Estrogen/Creatinine Ratio," *Obstetrics and Gynecology*, 46:64-68, July, 1975.

In order to evaluate this method of assessing fetal welfare, detailed analyses were conducted on the estriol, total estrogen, and creatinine levels found in biweekly 24-hour and paired random urine samples during the last 20 weeks of pregnancy in 20 patients who had a normal pregnancy outcome. Methods and data are presented. "Results revealed that total urinary estrogen excretion bore a relatively constant relationship to estriol excretion, that 24-hour creatinine excretion remained quite constant, and that values of E/C ratio in the 24-hour urine and the paired random urine demonstrated excellent correlation. It was possible to predict the 24-hour urine E/C ratio from the paired random urine E/C ratio to within less than ±5 with 95% confidence." Conflicts found in the

literature over the use of the random urine E/C ratio as an index of fetal welfare are discussed, and the approach employed by the authors in using the random urine E/C ratio is described. "Experience further indicates that this method is a sound, safe, and practical approach to the assessment of fetal welfare."

23. Avery, Gordon B., ed.: *Neonatalogy: Pathophysiology and Management of the Newborn.* Philadelphia: J.B. Lippincott, 1975. 1136 pp.

A total of 54 contributors have participated in the formation of the 40 chapters making up this large volume. "This book is organized around problems as they occur as well as by organ systems." The chapters are arranged in five sections. The first three shorter sections contain chapters on general considerations, the fetal patient, and transition and stabilization, respectively. Section IV is devoted to the newborn infant with separate chapters dealing with assessment of birth weight and gestational age, problems of the premature infant, the small-for-date infant, and the infant of the diabetic mother. Section V is very large and is concerned with particular problems and conditions. Individual chapters in this latter section are devoted to such topics as neonatal jaundice, bacterial and viral infections in the newborn, neonatal surgery, congenital malformations, orthopedics in the newborn, neurological disorders, disorders of neurosurgical importance, neuromuscular diseases, nutrition, and drugs and the perinatal patient. There are several appendices, lengthy reference lists, and a detailed index.

24. Avery, Mary Ellen: "Pharmacological Approaches to the Acceleration of Fetal Lung Maturation," *British Medical Bulletin*, 31:13-17, January, 1975.

Animal studies in this area are reviewed as are studies that indicated the direct effect cortisol has on the fetal lung. Consistent clinical observations in several studies are reported and attempts made to prevent the respiratory distress syndrome are reviewed. Also considered are the affects of heroin, autonomic drugs, and thyroxine on the fetal lung. Concern over toxicity is noted. Many research studies are mentioned.

25. Avery, Mary Ellen, and Frantz, Ivan, III: "Commentary: Intrauterine Developmental Retardation," *Journal of Pediatrics*, 87:956-957, December, 1975.

This concept is considered as well as that of intrauterine developmental acceleration. Comment is made of evidence of selective organ maturation or retardation in the fetus as for example in the administration of phenobarbital to the mother before delivery to enhance the maturation of liver enzymes and the pulmonary immaturity seen in infants of diabetic mothers. It is suggested that "much needs to be learned about those events that selectively retard or accelerate growth as well as maturation of each organ system, and presumably each function of each organ."

26. Babson, S. Gorham, and Henderson, Norman B.: "Fetal Undergrowth: Relation of Head Growth to Later Intellectual Performance," *Pediatrics*, 53:890-894, June, 1974.

Followed for at least seven years were ten girls who had had severe fetal growth retardation but were without evidence of congenital disease. At age one year the ten were divided into two groups on the basis of head size. Between the ages of seven through 11 the girls were assessed as described and "the two groups were compared in their performance, and the influence of head growth on IQ, achievement, and neurological development." "The five infants whose head circumferences at 1 year of age were found to be at or below the tenth percentile had, on the average, and IQ of ten points below the five whose head growth had reached the 25th percentile or better. No neurologic handicaps or significant school deficits were encountered in either group." These findings are discussed.

27. Balázs, Robert: "Influence of Metabolic Factors on Brain Development," *British Medical Bulletin*, 30:126-134, May, 1974.

Considered in this review article are the effects on the developing brain of abnormal hormonal states. Numerous experimental studies are mentioned.

28. Ball, Thomas S.; McCrady, Richard E.; and Hart, Archibald D.: "Automated Reinforcement of Head Posture in Two Cerebral Palsied Retarded Children," *Perceptual and Motor Skills*, 40:619-622, April, 1975.

Described is an experimental study in which a transistor radio, which was activated by a mercury switch, was used to reinforce head posture in a nine year old and a 17 year old, both of whom were non-ambulatory cerebral palsied and retarded. These children, the apparatus, and the procedure used are explained. "Under the contingent music condition dropping the head forward automatically terminated the broadcast (music). A comparison of baseline and treatment phases showed that head orientation was strongly controlled by contingent music."

29. Ballard, Rod: "Special Parents, Special Relations," *Special Education: Future Trends*, 2:10-12, September, 1975.

"The complex and often fragile nature of parent-teacher relationships in special schools" is discussed by the author, who is the father of a mongol boy and a lecturer in social work at Exeter University.

30. Barnes, S.E., and Bower, B.D.: "Sodium Valproate in the Treatment of Intractable Childhood Epilepsy," *Developmental Medicine and Child Neurology*, 17:175-181, April, 1975.

The characteristics of sodium valproate are described. This drug was used in a trial study involving 24 epileptic children who were selected because they had failed to respond to conventional treatment. The 24 had been given from two to eight other drugs in different combinations without satisfactory control. The children were placed in one of three groups on the basis of their response to

sodium valproate. "A reduction of fit frequency greater than 90 per cent was obtained in six patients, and a reduction of over 50 per cent in another six, with an improvement in alertness and school performance in the majority of cases. Grand mal, myoclonic and petit mal epilepsy gave the best response, while infantile spasms responded least well. No serious side-effects were encountered." Findings are discussed, and the literature is reviewed.

31. Barr, Peter A.; Jenkins, Patricia A.; Baum, J. David: "Lecithin/Sphingomyelin Ratio in Hypopharyngeal Aspirate of Newborn Infants," *Archives of Disease in Childhood*, 50:856-861, November, 1975.

The literature is reviewed. Studied with regard to the lecithin/sphingomyelin (L/S) ratio in hypopharyngeal aspirate were 41 newborns, who were divided into three groups. Group one consisted of 20 infants without respiratory distress, and "the ratio within 24 hours from birth ranged from 1.5 to 5.8 with a mean value of 3.3." Group two contained six infants with respiratory distress but not RDS ("transient tachypnoea of the newborn"), and "the ratio ranged from 2.0 to 6.7 with a mean value of 3.2." Group three was composed of 15 infants with RDS, and "the ratio ranged from 0.9 to 2.1 with a mean value of 1.4." "Serial hypopharyngeal aspirate L/S ratios were determined in the infants with RDS. There was a possible trend toward the earlier attainment of a ratio of 2.0 in infants who received continuous distending airway pressure [CDAP] compared with infants who did not." "It seems from the results of the present study that a hypopharyngeal aspirate L/S ratio of less than 1.5 in an infant with respiratory distress is presumptive evidence of biochemical pulmonary immaturity and by inference of RDS. We believe that an L/S ratio of less than 1.5 in an infant with respiratory distress might be a sufficient reason for the early introduction of CDAP even though the reticulogranular appearance of the chest radiograph may not have had time to develop."

32. Battle, Constance U.: "Chronic Physical Disease: Behavioral Aspects," *Pediatric Clinics of North America*, 22:525-531, August, 1975.

The pediatrician's role in such cases is considered. Aspects discussed include the interviewing of the patients and their families, formulating a plan for the child, understanding and assessing the feelings and behaviors of the parents, acquiring the basic knowledge of child psychiatry that is necessary in such cases, and realizing the significance of chronic hospitalization of the child.

33. Bauer, Charles R.; Stern, Leo; and Colle, Eleanor: "Prolonged Rupture of Membranes Associated with a Decreased Incidence of Respiratory Distress Syndrome," *Pediatrics*, 53:7-12, January, 1974.

The effects of prolonged rupture of membranes (ROM) on the incidence of respiratory distress syndrome (RDS) in premature infants was studied in 17 mother-premature infant pairs. "Prolonged" rupture was considered to be greater than 16 hours in duration. Ten infants were born after the membranes had been ruptured for more than 16 hours, and seven infants were born less than 16 hours after ROM. Steroid levels were determined "on paired maternal plasma obtained prior to delivery and infant plasma obtained within the first hour of life" as described. In the seven infants where ROM was less than 16 hours RDS occurred

in four infants, while in the ten infants where ROM was greater than ten hours, no RDS developed. There was a correlation found between steroid levels in the infants and the duration of ruptured membranes. These and other results are discussed, and speculation offered. "It is postulated that the protective influence which prolonged rupture of membranes imparts on the premature fetus is mediated by elevated blood corticosteroids, which result in accelerated lung maturation and a subsequent decreased incidence of respiratory distress syndrome."

34. Bax, Martin: "Annual Meeting of the American Academy for Cerebral Palsy, 1974," *Developmental Medicine and Child Neurology*, 17:387-399, June, 1975.

Dr. Bax reports on the proceedings of this meeting. Abstracts of papers presented are included.

35. Beard, Alice G.: "Neonatal Hypoglycemia," *Journal of Perinatal Medicine*, 3:219-225, 1975.

Studies are reviewed that are concerned with the incidence of neonatal hypoglycemia, and its occurrence in infants with reduced available substrate, infants with sepsis and cardiac failure, infants of diabetic mothers, and other rare causes of hypoglycemia in neonates.

36. Beard, R.W.: "The Detection of Fetal Asphyxia in Labor," *Pediatrics*, 55:157-169, February, 1974.

Considered are the methods and results of monitoring the fetus during labor by continuous recording of the fetal heart rate and by fetal blood sampling. Other aspects of fetal monitoring are also discussed including the significance of clinical fetal distress and the selection of patients for monitoring.

37. Beargie, Robert; Lynd, Priscilla; Tucker, Elon; and Duhring, John: "Perinatal Infection and Vaginal Flora," *American Journal of Obstetrics and Gynecology*, 122:31-33, May 1, 1975.

In order to study the relationship between maternal and fetal morbidity and death and bacteria in the vagina of the mother upon admission in labor, vaginal cultures were obtained and analyzed from 1,083 mothers upon admission. Cultures were obtained by two described methods. Pathogens were recovered from 75 women, and 5.7% of the women carried Group B streptococci vaginally. Of the 75 women in whom pathogens were found in the vagina, 18 resulted in perinatal infectious morbidity. The criteria used by the authors as "traditional indications to obtain vaginal cultures before or at delivery" are listed, and it is concluded that "the additional bacteriologic information gained from this survey was not sufficient to warrant continued use of the admission vaginal culture as a screening procedure."

38. Becker, Theodore Jay: "Finger Exercise Device for Adduction and Opposition," *Physical Therapy*, 55:615, June, 1975.

Described and pictured are digital exercises used to strengthen the intrinsic muscles of adduction and opposition. Supplies and instructions to construct the devices are presented.

39. Beguin, F.; Yeh, S.-Y.; Forsythe, A.; and Hon, E.H.: "A Study of Fetal Heart Rate Deceleration Areas. II. Correlation Between Deceleration Areas and Fetal pH During Labor," *Obstetrics and Gynecology*, 45:292-298, March, 1975.

Records of 66 patients who had been monitored during labor were reviewed. Fetal heart rate (FHR), intrauterine pressures, and fetal scalp blood samples were obtained. Three FHR deceleration areas of fixed durations were studied during the 30 minutes previous to the fetal blood sampling. All testing and recording methods are described. Correlations were then determined between these deceleration areas and the pH values of the fetal scalp blood. "The deceleration occurring 80 to 140 seconds after the onset of each uterine contraction during the 20 minutes preceding the fetal blood sampling presented the best correlation ($r = -0.453$) with fetal pH values. In addition to FHR deceleration area, baseline FHR variability should be considered in predicting fetal condition. Findings are discussed.

40. Behrman, Richard E.: "Placental Function and Malnutrition," *American Journal of Diseases of Children*, 129:425-426, April, 1975.

The mechanisms of normal placental functioning are considered as are "some speculations about placental function during maternal malnutrition."

41. Beisel, William R.: "Synergistic Effects of Maternal Malnutrition and Infection on the Infant," *American Journal of Diseases of Children*, 129:571-574, May, 1975.

There is considerable evidence that combined maternal malnutrition and infection can cause fetal death, premature labor, and fetal growth retardation. A figure of a set-theory diagram is presented "to illustrate a basic mechanistic concept, that various normal nutritional, biochemical, metabolic, or endocrine processes in the mother may be altered during states of infection or pregnancy." Recommendations for future research in this area are outlined, and studies concerned with indicators of fetal growth retardation are reviewed.

42. Belfrage, Patrick; Raabe, Nils; Thalme, Bertil; and Berlin, Anita: "Lumbar Epidural Analgesia with Bupivacaine in Labor," *American Journal of Obstetrics and Gynecology*, 121:360-365, February 1, 1975.

In order to determine any hazards to the fetus with the use of lumbar epidural analgesia, this analgesia was administered with bupivacaine as described to 37 healthy women in labor, and pH and bupivacaine concentration were serially measured in fetal scalp and maternal blood. The fetal heart rate (FHR) was also continuously monitored. Findings indicated that no signs of fetal distress

resulted from the lumbar epidural analgesia, and it is indicated that "a low-dose technique with bupivacaine seems to be the best when giving lumbar epidural analgesia for labor."

43. Benzie, R.J., and Doran, T.A.: "The 'Fetoscope' - A New Clinical Tool for Prenatal Genetic Diagnosis," *American Journal of Obstetrics and Gynecology*, 121: 460-464, February 15, 1975.

This instrument is described, and results of its use in 65 patients prior to saline abortion are presented. "The limitations of this instrument are described. No significant complications have occurred. Current and probable future indications for fetoscopy are reviewed. Until both the safety of the procedure is proved and problems of visualization due to limitation of visual field are solved, extreme caution is urged in the employment of this instrument in genetic high-risk pregnancy." Also reviewed is previous experimentation and efforts in this area of visualizing the fetus in utero.

44. Berenberg, S.R.; Caniaris, Maria; and Masse, Nathalie P.: *Pre- and Postnatal Development of the Human Brain.* Basel, New York: S. Karger, 1974. 359 pp. (Modern Problems in Paediatrics, Volume 13.)

Published here are the proceedings of a Joint Josiah Macy Jr. Foundation, International Children's Conference held in December, 1972. Contributions are presented under the headings of cell biology and morphology, biochemistry, stimulation, nutrition, electrophysiology, and behavioral components of neurologic development. There are many lists of references, but no index.

45. Berger, Anna; Sharf, B.; Winter, S.T.: "Pronounced Tremors in Newborn Infants: Their Meaning and Prognostic Significance," *Clinical Pediatrics*, 14:834-835, September, 1975.

A group of 30 infants, who had displayed marked tremor as neonates as described, were followed for up to six years. Possible perinatal features had been present in 18 of the infants. During the follow-up period, 22 of the 30 infants had developed normally. The other eight children are described. "The high number of abnormal perinatal features in this group of 30 infants would suggest that marked tremor can often be caused by factors related to the labor and to the neonatal period. Thus, in most instances, marked tremor seems to be a nonspecific response of the central nervous system in newborns after a difficult birth or as a concomitant of various perinatal problems. Nevertheless, prognosis as to the future of the infant should not be made on the basis of the tremor alone. Severe perinatal disturbances or a familial disorder occasionally play a role and alter the prognosis unfavorably. In the absence of such additional factors, however, severe tremor generally may be regarded as not being of significance with respect to future problems."

46. Berger, Gary S.; Edelman, David A.; and Kerenyi, Thomas D.: "Fetal Crown-Rump Length and Biparietal Diameter in the Second Trimester of Pregnancy," *American Journal of Obstetrics and Gynecology*, 122:9-12, May 1, 1975.

Studied in a large group of women who underwent second trimester elective abortions were the relationships between fetal biparietal diameter measurements, fetal crown-rump length measurements, and gestational age. Findings indicated "with a confidence of 90 per cent, biparietal diameter can be used to predict gestational age within ±2 weeks, and crown-rump length can be used to predict gestational age within ±3 weeks."

47. Bergsma, Daniel, ed.: *Morphogenesis and Malformation of Face and Brain*. New York: Alan R. Liss, 1975. 364 pp. (The National Foundation - March of Dimes. Birth Defects: Original Article Series. Volume XI, Number 7, 1975.)

Published here are the papers presented at The First International Conference on Morphogenesis and Malformation which was held at Airlie House, Virginia in June of 1974. The Conference was sponsored by the March of Dimes. A total of 20 articles are included along with bibliographies, and discussions. There are many illustrations.

48. Biale, Y.; Lewenthal, H.; and Aderet, N. Ben: "Congenital Malformations Due to Anticonvulsive Drugs," *Obstetrics and Gynecology*, 45:439-442, April, 1975.

The cases of 20 women of described ethnic backgrounds who took antiepileptic drugs during their pregnancies were reviewed. Of the 56 births to these women, nine infants (16%) had malformations. These malformations are described and two cases are reported in detail. "Congenital heart disease, cleft lip with or without cleft palate, neural tube defects, and skeletal abnormalities were the commonest anomalies found." The literature is reviewed.

49. Biggs, John S.G.: "Progress in Fetal Assessment," *Obstetrics and Gynecology*, 45:227-233, February, 1975.

Papers published in 1973 in four obstetric and gynecology journals on the subject of fetal assessment in the second half of pregnancy were quantitatively reviewed to determine areas of growth in this field. The journals reviewed were *American Journal of Obstetrics and Gynecology*, *Australian and New Zealand Journal of Obstetrics and Gynaecology*, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, and *Obstetrics and Gynecology*. The number of relevant papers in each journal and the subjects pertinent to fetal assessment are reported. "Of the 130 relevant papers published in 1973, the most common subject treated was the phospholipid test of fetal lung maturity. Other important tests reviewed were estrogen assays, ultrasonic studies, human placental lactogen and alpha-fetoprotein measurements." Findings in the papers on each of these tests are described separately, and four conclusions are listed.

50. Bird, Charles C., and McElin, Thomas W.: "A Six-Year Prospective Study of Term Breech Deliveries Utilizing the Zatuchni-Andros Prognostic Scoring Index," *American Journal of Obstetrics and Gynecology*, 121:551-558, February 15, 1975.

This article describes a prospective study of 290 consecutive term breech deliveries which is a continuation of a retrospective study reported by the authors of 500 consecutive term breech deliveries. The Zatuchni-Andros Breech Scoring Index is described with the criteria for scoring presented. Using this Index, a breech score was assigned to each of the 290 patients after admission to the labor suite. Data on these patients are then presented including the fetal outcome, the rate of cesarean section delivery, the incidence of abnormal labor, and the use of drugs for stimulation of labor. "The results indicate that this breech assessment method is a valid method and it is recommended that patients whose breech score is 3 or less be submitted to immediate cesarean section and, conversely, those with a breech score of 4 or more be allowed to labor with meticulous observation with a high confidence level that successful vaginal delivery will result." The authors feel that use of the Index will significantly reduce fetal mortality and morbidity rates in cases of breech delivery. Further discussion is conducted after the text by Dr. James A. O'Leary.

51. Bishop, Beverly: "Vibratory Stimulation. Part I. Neurophysiology of Motor Responses Evoked by Vibratory Stimulation," *Physical Therapy*, 54:1273-1282, December, 1974.

Numerous studies are reviewed that are concerned with the analysis of motor effects produced by vibratory stimulation. "Vibratory stimulation of skeletal muscle produces reflex effects which promise to become useful in the evaluation and treatment of motor disorders." The motor effects resulting from vibrating muscle are described and include the tonic vibration reflex (TVR). The characteristics of the TVR and its analysis are explained as are the factors that influence the TVR. "At least four major factors influence the strength of the TVR: the location of the vibrator, the initial length of the muscle, the state of central nervous system (CNS) excitability, and the parameters of the vibratory stimulus." Also considered is the analysis of the peripheral and spinal neural components of the TVR. Five points are listed in the Summary.

52. Bishop, Beverly: "Vibratory Stimulation. Part II. Vibratory Stimulation as an Evaluation Tool," *Physical Therapy*, 55:28-34, January, 1975.

"In this article, the classical applications of the tendon jerk reflex and H-response for assessing phasic mechanisms are first reviewed. Following this review, the tonic stretch reflex and tonic vibration reflex (TVR) are analyzed and compared. The effects of experimentally ablating or stimulating precise brain regions are described as a means of revealing the role of supraspinal mechanisms in the TVR. Finally, the responses to vibratory stimulation in specific motor disorders are examined and discussed as to their usefulness in prognosis and diagnosis." These motor disorders include spinal cord lesions, Parkinson's disease, spasticities, and cerebellar disease. Also listed are some specific applications of vibration in the evaluation of patients. These include detecting early signs of Parkinson's disease, early signs of upper motor lesions, early signs of cerebellar diseases, and detecting other incipient diseases. Five points are listed in the Summary.

53. Bishop, Beverly: "Vibratory Stimulation. Part III. Possible Applications of Vibration in Treatment of Motor Dysfunctions," *Physical Therapy*, 55:139-143, February, 1975.

"Vibratory stimulation holds promise of becoming a useful therapeutic tool in the treatment of motor disorders." The predicted benefits of vibrabory stimulation are discussed, and results of vibration treatment are described in patients with spasticity, cerebellar disorders, and cerebral palsy. The limitations and long-term effects of such treatment are considered, as are the factors that are involved in the therapeutic effectiveness of vibration stimulation. Recommended procedures are suggested.

54. Bjerre, Ingrid: "Neurological Investigation of 5-Year-Old Children with Low Birthweight," *Acta Paediatrica Scandinavica*, 64:859-864, November, 1975.

A group of 139 children who weighed 2500 g. or less at birth were neurologically assessed at age five years. The neonatal treatment of this group is described as are the methods of neurological examination. On the basis of the examination results the children were divided into four described groups: cerebral palsy (5), minimal brain dysfunction (13), delayed motor maturation (38), and normal (83). Findings are also reported regarding impairment of hearing, vision, speech, IQ, and the incidence of convulsions and neonatal complications. "Impairment of hearing and of vision, epilepsy and mental retardation were more common in children with cerebral palsy and MBD....Cerebral palsy was found in children with a very low birthweight and short gestational age." Findings are discussed.

55. Bjerre, Ingrid: "Physical Growth of 5-Year-Old Children with a Low Birth Weight," *Acta Paediatrica Scandinavica*, 64:33-43, January, 1975.

Prospectively studied was a group of 143 unselected five-year-old children who had birthweights of under 2500 g. Three subgroups were formed: appropriate for gestational age (AGA), small for gestational age (SGA), and twins. There were both a childrens control group and a mothers control group. Four variables were assessed: stature, weight, head circumference, and osseous development. Methods are described. "Growth of the LBW-children was slightly retarded in respect to stature, weight and osseous development, but not regarding head circumference. The values found for stature and osseous development were low in the group small for gestational age and for twins. Those LBW-children who were appropriate for gestational age developed at a normal rate. This is true even for those with the lowest birth weight and those born long before term." "Neither maternal disease nor feeding difficulties during the first few months of life had any demonstrable effect on the physical development of the children. Socio-economic factors now surely play at most a subordinate role. Physical development of the children varied most with the mothers' stature and weight and probably with hereditary factors."

56. Bjerre, Ingrid, and Värendh, Gunilla: "A Study of Some Biological and Socio-Economic Factors in Low Birth Weight," *Acta Paediatrica Scandinavica*, 64:605-612, July, 1975.

Studied were 188 children who were born in Malmö, Sweden in 1966, and who had birth weights of 2500 g. The children, their families, and a control group were investigated. The low birth weight (LBW) children were divided into three groups for analysis: those of appropriate weight for gestational age, those small for gestational age, and multiple births. Findings are presented regarding mothers' age, stature, and weight; parity; civil status of the mother; social group of the mother and father (when known); income level; sick allowance of the mother; social welfare help and investigations made in these cases; immigrant status; and a combined "social score." "Judging from our investigation, biological factors probably play the greatest role in the question of LBW but these factors are difficult to distinguish from socio-economic factors which probably still play a certain role in the group preterm children, appropriate for gestational age."

57. Blake, A.M.; McIntosh, N.; Reynolds, E.O.R.; and St. Andrew, D.: "Transport of Newborn Infants for Intensive Care," *British Medical Journal*, 4:13-17, October 4, 1975.

Reported are the results of a study to determine the effectiveness of a transport system used to bring newborns to the University College Hospital in London for intensive care. Data on 222 such infants transported to the hospital over a three year period (1972-74) were analyzed. The equipment and procedures employed are described in detail, and many findings are presented, including those on survival rate, condition of the infants when first seen, and condition during the journey. It is concluded from the findings that "seriously ill newborn infants may be transported safely to a referral centre within a radius of 50 miles, and the risks of the journey are negligible compared with the risks of leaving the infant in a hospital that is not staffed or equipped for neonatal intensive care."

58. Blatman, Saul: "Narcotic Poisoning of Children (1) Through Accidental Ingestion of Methadone and (2) In Utero," *Pediatrics*, 54:329-332, September, 1974.

Discussed are "(1) the accidental poisoning of children by methadone and (2) the infant born to the heroin addict or to the women maintained on methadone during pregnancy." In both areas the literature is reviewed, and symptoms and treatment are discussed.

59. Bleck, E.E.: "Locomotor Prognosis in Cerebral Palsy," *Developmental Medicine and Child Neurology*, 17:18-25, February, 1975.

A group of 73 preschool children with cerebral palsy, suspected cerebral palsy, or delayed motor development were evaluated with regard to prognosis for walking. These children are further described as are the methods of examination, the method of scoring used for prognosis, and the follow-up and treatment procedures. Among the findings presented are the accuracy of prediction, the prognostic signs found most frequently, the age at ambulation, and the methods by

which these children walked. "The importance of prognostic signs, based upon the presence or absence of postural reflex activity was confirmed. The prognosis was accurate in 94.5 per cent of the 73 children studied. The method of scoring a child's reflex responses and relating this to the prognosis seems to be a simple procedure, easy to understand and to apply. It is suggested that the assessment of treatment methods should include an analysis of the child's walking potential, based upon the methods delineated in this study, before treatment is started."

60. Blennow, Gösta; Svenningsen, Nils W.; and Almquist, Bengt: "Noise Levels in Infant Incubators (Adverse Effects?)," *Pediatrics*, 53:29-32, January, 1974.

Four listed infant incubators were studied with regard to inside noise level by using a described sound measuring instrument. "In all of these incubators, noise level exceeded recommended standards for hospital wards. The highest levels (70 to 80dB...) were found in incubators powered by an electrical motor. The hazard of possible hearing impairment or other disturbances resulting from protracted noise exposure within infant incubators should be taken into consideration as a possible perinatal risk factor."

61. Blinick, George; Inturrisi, Charles E.; Jerez, Eulogio; and Wallach, Robert C.: "Methadone Assays in Pregnant Women and Progeny," *American Journal of Obstetrics and Gynecology*, 121:617-621, March 1, 1975.

In order "to assess whether methadone crosses the placental barrier and can be found in fetal fluids," methadone levels were measured in maternal plasma and urine of women on methadone during pregnancy and were compared to levels found in amniotic fluid, cord blood, fetal urines, and breast milk. Data are presented. No simple relationship was found between the urinary methadone levels in the neonate and the severity of the neonatal withdrawal syndrome. "The pattern of drug addiction currently evolving is the licit and illicit use of methadone often associated with multiple-drug abuse. The effect on the maternal-fetal unit is poorly understood, but may be responsible for the high degree of withdrawal signs currently reported."

62. Boddy, K., and Dawes, G.S.: "Fetal Breathing," *British Medical Bulletin*, 31: 3-7, January, 1975.

Aspects considered include the fetal electrocorticogram and diurnal rhythms; changes in blood gases, hypoglycemia, and parturition; the development of a clinical method for measuring human fetal breathing by ultrasound; diurnal variations in human fetal breathing; clinical observations on fetal breathing in man during labor, in the high-risk fetus, and in the prediction of fetal distress in labor; drug action on the fetus; and breathing after birth. Several studies are reported.

63. Boehm, Frank H.: "Prolonged End Stage Fetal Heart Rate Deceleration," *Obstetrics and Gynecology*, 45:579-582, May, 1975.

This fetal heart rate pattern is described and pictured as it was noted in 12 patients out of approximately 2,000 tracings made from July, 1972 to April, 1974. Findings indicated that rapid termination of labor was the treatment of choice in such cases.

64. Borgstedt, Agneta D.; Rosen, Mortimer G.; Chik, Lawrence; Sokol, Robert J.; Bachelder, Linda; and Leo, Patricia: "Fetal Electroencephalography," *American Journal of Diseases of Children*, 129:35-38, January, 1975.

Fetal electroencephalography (FEEG) was conducted as described during labor and delivery in a group of at-risk cases. Findings were then related to neonatal neurological examination findings and to neurological examination findings at one year of age. Data was analyzed for 96 children. Of these 96 children, 71 showed no abnormalities and were considered the "normal population" while 25 children were found to be neurologically abnormal and were considered the "abnormal population." Abnormal findings in these cases are described. "Sharp wave activity in fetal electroencephalograms was found to have a significant relation to neurological findings at 1 year of age but not to neurological findings obtained during the neonatal period. Neonatal neurological findings were significantly related to those at 1 year of age." It is concluded that "sharp wave activity in the FEEG is an early indicator of later disturbances in development and neurological functions. If combined with a neurological examination during the neonatal period, FEEGs can help to identify infants with a high risk for abnormal development."

65. Bragg, Janice H.; Houser, Carolyn; and Schumaker, Jean: "Behavior Modification: Effects on Reverse Tailor Sitting in Children with Cerebral Palsy," *Physical Therapy*, 55:860-868, August, 1975.

The undesirability of reverse tailor sitting (RTS) in cerebral palsied children is discussed. Included in a study were six children, mean age 3.7 years, who had lower limb spasticity and who sat most of the time in the reverse tailor position, but had the ability to sit in another position. Baseline or pretreatment sessions were conducted as were treatment sessions, and sitting was documented in all sessions. There were two treatment groups with three of the children randomly assigned to each group. In Group I "treatment consisted of delivery of praise, affection, and food contingent on non-RTS." In Group II treatment consisted of "consistent priming as well as contingent praise, affection, and food." "All subjects demonstrated significant increases in the frequency and duration of desirable sitting positions after the onset of treatment. Those children asked to sit in desirable positions showed even greater increases, but only initially. Sitting behavior was documented (but not treated) in another setting, before and after treatment was instituted in the home. Four subjects showed some increases in the frequency of desirable sitting in the other setting." Findings are discussed.

66. Braun, Frederic H.T.; Jones, Kenneth L.; and Smith, David W.: "Breech Presentation as an Indicator of Fetal Abnormality," *Journal of Pediatrics*, 86:419-421, March, 1975.

By reviewing patient records, 11 listed disorders were studied regarding the frequency of breech presentation. Also listed in a table are "known factors associated with breech presentation and potential reasons for failure in assuming the vertex presentation." The literature is reviewed, and it is concluded that "when an infant is born by breech presentation the question should be asked, why the fetus failed to assume the vertex position. One reason can be a problem in the morphogenesis and/or function of the fetus. Appreciation of this fact may be of value in the earlier recognition of such problems."

67. Bresnan, Michael J., and Abroms, Isreal F.: "Neonatal Spinal Cord Transection Secondary to Intrauterine Hyperextension of the Neck in Breech Presentation," *Journal of Pediatrics*, 84:734-737, May, 1974.

Two case reports of this occurrence are presented as are findings on a review of the literature. In this review "82 cases of breech presentation with persistent hyperextension of the head" were found. Of these 82 cases, 26 were delivered by cesarean section, and no cord transection was found. However in the 56 cases delivered vaginally, there were 14 (25%) transections of the cord. A roentgenogram at the onset of labor is suggested as "the most important diagnostic measure," and it is recommended that all babies showing intrauterine hyperextension of the head in breech position be delivered by cesarean section.

68. Brett, E.M.: "Ataxia in Childhood," *Physiotherapy*, 61:329-331, November, 1975.

This condition is described and its various types are individually considered, including cerebellar, sensory, acute, intermittent, progressive, and chronic non-progressive ataxia.

69. Briggs, Gerald G.; Samson, John H.; and Crawford, Donald J.: "Lack of Abnormalities in a Newborn Exposed to Amphetamine During Gestation," *American Journal of Diseases of Children*, 129:249-250, February, 1975.

A case is described involving a woman treated with large doses of amphetamine during pregnancy because of narcolepsy. The child is normal at age 18 months with no toxic effects or malformations present. The literature regarding amphetamine teratogenesis is briefly reviewed.

70. Brock, D.J.H.; Scrimgeour, J.B.; and Nelson, M.M.: "Amniotic Fluid Alphafetoprotein Measurements in the Early Prenatal Diagnosis of Central Nervous System Disorders," *Clinical Genetics*, 7:163-169, February, 1975.

Alphafetoprotein (AFP) levels were determined from amniotic fluid samples of 520 pregnancies between weeks eight to 24 of gestation. Methods are described, and results are presented for the normal pregnancies, those resulting in spontaneous abortions, those involving Rh isoimmunization, those pregnancies having an abnormal outcome, and those pregnancies at risk for CNS malformations.

"Grossly elevated AFP concentrations were found in four pregnancies leading to spina bifida and nine pregnancies leading to anencephaly. Slightly elevated AFP concentrations were found in one twin pregnancy and two pregnancies affected by rhesus isoimmunisation. Normal AFP values were observed in 36 amniotic fluids from pregnancies where the outcome was rhesus isoimmunisation, an inborn error of metabolism, a cytogenetic disorder or a birth defect unrelated to the central nervous system. The reliability of amniotic fluid AFP in the early prenatal diagnosis of spina bifida and anencephaly and the possibility of performing assays on samples sent by post from any part of the world are emphasized."

71. Brophy, Michael H., and Siiteri, Pentti K.: "Pyridoxal Phosphate and Hypertensive Disorders of Pregnancy," *American Journal of Obstetrics and Gynecology*, 121:1075-1079, April 15, 1975.

Previous experiments concerning the relationship between deficiency in pyridoxal phosphate, vitamin B_6, during pregnancy and abnormal fetal and infant neurological development are reviewed. In order to study and compare the pyridoxal phosphate levels in infants of toxemic mothers with those levels in infants of normal pregnancies, peripheral and cord blood was obtained at delivery from 30 women, and the pyridoxal phosphate concentration was measured. The mean plasma pyridoxal phosphate concentration was found to be 4.3 ng. per milliliter in the normal pregnant women, and 3.3 ng. per milliliter in the pre-eclamptic women. This difference was not significant. However, the mean plasma pyridoxal phosphate concentration in the cord blood of the infants of normal mothers was 28.4 ng. per millileter compared to a concentration of 12.2 ng. per milliliter in the cord blood of infants of pre-eclamptic mothers. This difference was significant. When pyridoxine was administered as a supplement to pregnant women as described, the pyridoxal phosphate concentrations in the cord plasma of the infants was increased. "These findings together with other data, demonstrating (1) that B_6 deficiency during pregnancy may lead to abnormal neurologic development in experimental animals and (2) that brain development in infants of toxemic mothers may be retarded, suggest that dietary supplementation with vitamin B_6 should be instituted in women at high risk for development of toxemia of pregnancy."

72. Browder, J. Albert: "Adoption and Foster Care of Handicapped Children in the United States," *Developmental Medicine and Child Neurology*, 17:614-620, October, 1975.

Reported are the results of a survey taken in 1974 of the child-welfare agencies in the United States to review current policies and programs of adoption and foster care of handicapped children. Forty-two of the 50 states responded to the questionnaire that was sent. A copy of this questionnaire is included in an appendix. "It is concluded that successful programmes related directly to careful selection of families, to educating the parents and to adequate staff support."

73. Brown, Frederick B.: "Manometric Evaluation of Labor," *Obstetrics and Gynecology*, 45:473-475, April, 1975.

A technic of assessing uterine activity is described whereby a water manometer is attached to the standard intrauterine catheter. The advantages and

disadvantages of this method are noted. "Comparison of manometric measurements or uterine activity with electronic monitor values reveals that the manometric technic provides an accurate assessment of pathologic intrauterine pressures."

74. Brown, J.K., and Habel, A.H.: "Toxic Encephalopathy and Acute Brain-Swelling in Children," *Developmental Medicine and Child Neurology*, 17:659-679, October, 1975.

In this article problems in the diagnoses and management of children having acute encephalopathic illness are considered. After the terms, toxic encephalopathy and encephalitis, are defined, the etiology, pathology, and pathogenesis of acute toxic encephalopathy are discussed. The clinical features are listed and individually considered, and the differential diagnosis of acute encephalopathy is examined. The management of such children is then discussed with emphasis placed on methods of reducing intracranial pressure and the management of defects in homeostasis. It is concluded that "the child who presents with an acute encephalopathic illness poses a difficult diagnostic problem. There are many secondary effects which are very amenable to treatment, provided intensive observation and monitoring facilities are available. If we can successfully support these children during the acute phase, then the number surviving with mental and physical handicap from 'acquired cerebral palsy' may be reduced, imitating the success of newborn intensive care in reducing the frequency of perinatal handicap."

75. Brown, R.S., and Bower, B.D.: "Neonatal Disseminated Herpes Simplex Virus Infection with Encephalitis Treated with Cytosine Arabinoside," *Developmental Medicine and Child Neurology*, 17:493-498, August, 1975.

Such a case is presented. "Treatment with steroid, diuretic and cytosine arabinoside was begun and initially there was dramatic improvement in the symptoms. This improvement was not sustained, however, and the infant developed evidence of severe brain-damage. Disseminated herpes simplex virus infection is discussed and available therapy for this severe disease is outlined."

76. Buhi, W.C., and Spellacy, W.N.: "Effects of Blood or Meconium on the Determination of the Amniotic Fluid Lecithin/Sphingomyelin Ratio," *American Journal of Obstetrics and Gynecology*, 121:321-323, February 1, 1975.

When increasing amounts of maternal or fetal serum were added to amniotic fluid, a decrease in the L/S ratio was produced in mature amniotic fluid and an increase in the L/S ratio was produced in immature amniotic fluid. Serum was found to contain an L/S ratio of approximately 1.31 to 1.46. When meconium was added to mature amniotic fluid, a decrease in the L/S ratio was produced. Findings are discussed.

77. Bullock, Ann; Dalrymple, George, F.; and Danca, Janice M.: "Communication and the Nonverbal, Multihandicapped Child," *American Journal of Occupational Therapy*, 29:150-152, March, 1975.

Described is the Auto-Com, a communications device, developed by the Cerebral Palsy Communication Group at the University of Wisconsin, to be used with patients who are unable to speak and have severe motor problems. "The board of the Auto-Com consists of 84 brightly colored squares on a plastic-covered work surface. Each square has a character painted on it similar to those used on a typewriter. The user moves a pointer to the desired character and holds the pointer over the square. After a short, adjustable period of time, the Auto-Com responds and sends the selected character to the output display device, a video terminal employing a commercial character generator and a TV monitor." The training of a ten-year old cerebral palsied child to use the device with a head pointer, and the child's improved classroom performance are discussed.

78. Burton, Barbara K.; Gerbie, Albert B.; and Nadler, Henry L.: "Present Status of Intrauterine Diagnosis of Genetic Defects," *American Journal of Obstetrics and Gynecology*, 118:718-746, March 1, 1974.

"The goal of this review is to define the past achievements, future goals, and present limitations of intrauterine diagnosis." In the first section, the approaches used to prenatally detect genetic disorders are reviewed. These include amniocentesis, direct and indirect visualization of the fetus, the analysis of maternal blood and urine, and the sampling of fetal tissues. This section is followed by discussion of ways these approaches can be applied to specific chromosomal abnormalities and inborn errors of metabolism. Disorders of lipid metabolism, carbohydrate metabolism, mucopolysaccharide metabolism, amnio acid metabolism, and miscellaneous disorders are separately considered. There is a lengthy bibliography.

79. Buster, John E., and Abraham, Guy E.: "The Applications of Steroid Hormone Radioimmunoassays to Clinical Obstetrics," *Obstetrics and Gynecology*, 46:489-499, October, 1975.

The literature on "this subject is reviewed in three sections: first, basic principles of steroid hormone radioimmunoassay methodology; second, steroidogenesis in normal pregnancy and its relation to patterns of steroid hormones measured in maternal and fetal circulations; third, applied steroid radioimmunoassay technology as it is being used in established and potential clinical applications. It is concluded that steroid hormone radioimmunoassay procedures have been and will continue to be a highly productive technology applied to clinical obstetric investigation." There is a substantial bibliography.

80. Byers, Randolph K.: "Spinal-Cord Injuries During Birth," *Developmental Medicine and Child Neurology*, 17:103-110, February, 1975.

The literature is historically reviewed. The pathology, clinical manifestations, differential diagnoses, prognoses, and treatment of spinal-cord injuries occurring during birth are discussed.

81. Caetano, Donald F.: "The Relationship of Medical Specialization (Obstetricians and General Practitioners) to Complications in Pregnancy and Delivery, Birth Injury, and Malformation," *American Journal of Obstetrics and Gynecology*, 123: 221-227, October 1, 1975.

Using a sample of 6,612 live births delivered by physicians who were members of a county medical association, census data was investigated to compare the defined outcome in cases delivered by obstetricians with those delivered by general practitioners. Problems involved in this method of research are noted. Results are presented in tables, and possible conclusions are suggested. "Although the data reported require some qualification and additional research, preliminary results indicate that general practitioners report approximately three times more birth injuries and/or malformations (than do obstetricians) at birth. Both groups (obstetricians and general practitioners) report approximately the same number of complications in pregnancy and delivery. It was tentatively concluded that the similarity in diagnosed complications was probably due to diagnostic error. This error, in combination with sample differences and differing delivery techniques, resulted in the consequent differences in rates of birth injury and malformation."

82. Cailliet, Rene: *Scoliosis: Diagnosis and Management.* Philadelphia: F.A. Davis, 1975. 121 pp.

Scoliosis is defined and its natural history is discussed in the first chapter of this book, while the anatomy of the normal spine, scoliosis terminology, and types and the etiology of scoliosis are considered in Chapters 2, 3, and 4, respectively. Then in Chapter 5 Dr. Caillier describes the early manifestations of scoliosis, its recognition, and its diagnosis, including symptoms and examination procedures. Treatment is the subject of Chapter 6 with exercises, external devices, and surgical treatment described. In Chapters 7 and 8 adult scoliosis and cardiopulmonary function are discussed. There are many illustrations, which are listed, a bibliography, and an index.

83. Carlsen, Pat Nuse: "Comparison of Two Occupational Therapy Approaches for Treating the Young Cerebral-Palsied Child," *American Journal of Occupational Therapy*, 29:267-272, May/June, 1975.

Reported is a study in which the facilitation and the functional approaches toward the occupational therapy treatment of the young cerebral palsied child are compared. These two approaches plus the "flexible" approach are explained, and the literature is reviewed. In the study 12 cerebral palsied children, ages one to five years, were evaluated using the Denver Developmental Screening Test and the Bayley Motor Scale, were paired according to nearest developmental age, and were then randomly assigned to one of the two treatment programs. These described programs each included six weeks of clinical sessions and daily home programs. After this six week period all children were reevaluated on the tests. Results indicated that the children in the facilitation system treatment program achieved more improvement in all subtests than did the children in the functional system treatment program. "Results suggest that for the age group studied, a program that is primarily based on facilitation of gross sensorimotor integration, but does not exclude training in fine motor activities, may

be the most effective. It is felt that additional research in this area is necessary in order to be truly accountable both to consumers and to providers of occupational therapy services."

84. Carson, Merl J., and Gilden, Carl: "Treatment of Minor Motor Seizures with Clonazepam," *Developmental Medicine and Child Neurology*, 17:306-310, June, 1975.

The literature is reviewed. Clonazepam was administered as described for an average period of 15 months to 52 patients, ages four months to 17 years, who had received other anticonvulsant therapy without satisfactory control. The types of seizures experienced by these patients are listed. Of the 52 patients, 51 had minor motor seizures either alone or in conjunction with major motor seizures. "Evaluation of seizure control by clonazepam showed that the large majority of patients had improved — complete control of seizures was achieved in 27 per cent, and a greater than 50 per cent control was achieved in 61 per cent of the patients. Ten per cent of the patients showed no change and one patient worsened. Eight patients were successfully managed on clonazepam alone." Side effects are described, and conclusions are presented.

85. Carter, Russell E., and Campbell, Suzann K.: "Early Neuromuscular Development of the Premature Infant," *Physical Therapy*, 55:1332-1341, December, 1975.

A longitudinal study was conducted of the neuromuscular development of a normal premature infant. Objective ratings as well as subjective observations were performed on this infant from birth at 34-35 weeks of gestation to 42 weeks postmenstrual age. The following responses were studied and individually rated: in the supine position, spontaneous activity, the sucking response, rooting responses, the palmar response, the tonic labyrinthine reflex muscle tone, the asymmetrical tonic neck reflex, pull to sit, head control and posture when sitting, and the Moro reflex; in the prone position, spontaneous activity, head lifting, the tonic labyrinthine reflex, Galant's reflex, and ventral suspension; and in the vertical position, head control when held in standing position, and placing reaction of the feet. Methods of examination, the rating system used on each response, and the results are presented. Findings were compared to the full-term infant. "This information is of value to physical therapists involved in evaluation and therapeutic intervention programs for high risk infants."

86. Cascolan, Dinah: "Forearm Rest Attachment as an Aid to Standing," *Physical Therapy*, 55:991-992, September, 1975.

Such an attachment is pictured and described. It allows a patient or handicapped person to come to a standing position independently. Materials used and instructions on using the attachment are included.

87. Caspi, E.; Schreyer, P.; Weinraub, Z.; Bukovsky, I.; and Tamir, I.: "Changes in Amniotic Fluid Lecithin-Sphingomyelin Ratio Following Maternal Dexamethasone Administration," *American Journal of Obstetrics and Gynecology*, 122:327-331, June 1, 1975.

Previous research on the use of steroids to induce lung maturation is reviewed. Dexamethasone was administered to 15 patients having fetuses of 34 weeks or

less gestational age. Of these 15 patients, six had premature rupture of the membranes and seven were threatening premature labor. L/S ratios were measured before treatment (13 patients), during treatment, and after treatment. "A rise in the L/S ratio to mature levels (two or more) was observed 24 hours to 11 days after the start of treatment in 12 patients. In 2 patients (one second twin and one anencephalic fetus), no rise in L/S ratio occurred. Of 12 cases which ended in premature delivery (29 to 35 weeks) only one infant, a second twin delivered at the thirtieth week with a post-treatment L/S ratio of 1.4 weighing 1,240 grams, developed severe respiratory distress syndrome and died." The findings are discussed and the administration of steroids in premature deliveries is recommended.

88. Caspi, Eliahu; Schreyer, Peter; and Tamir, Isreal: "The Amniotic Fluid Foam Test, L/S Ratio, and Total Phospholipids in the Evaluation of Fetal Lung Maturity," *American Journal of Obstetrics and Gynecology*, 122:323-326, June 1, 1975.

In order to compare these three methods (L/S ratio, TPL concentrations, and the FT) and to determine their correlation with fetal pulmonary outcome, 126 amniotic fluid samples were obtained and the tests performed. These samples were obtained between 26 to 43 weeks of gestation, and 105 of them were obtained within 48 hours of delivery. "No RDS occurred when the L/S ratio was 2 or more, the TPL 2.8 mg. per 100 ml. or more, and the FT positive or intermediate. When the L/S ratio was 1.4 or less and the TPL 1.5 mg. per 100 ml. or less, all babies developed RDS; of the 36 cases with negative FT results, 17 babies suffered from RDS and the remaining 19 had no respiratory problems." The findings of the study indicate "that the simple and rapid FT is a highly valuable screening test. If positive or intermediate, the risk of RDS is very small. When negative, respiratory function of the newborn infant may be normal, or RDS may occur, therefore che sample should be subjected to chemical analysis. In nonspecialized laboratories the less sophisticated TPL estimation may be performed and if the results fall in the intermediate zone, determination of the more valid L/S ratio is advised."

89. Cassady, George; Hinkley, Clark; Bailey, Penrhyn; Blake, Mary; and Younger, Benjamin: "Amniotic Fluid Creatinine in Pregnancies Complicated by Diabetes," *American Journal of Obstetrics and Gynecology*, 122:13-20, May 1, 1975.

Over a three year period, 353 amniotic fluid (AF) samples were obtained from 167 women whose pregnancies were complicated by diabetes, and AF creatinine concentrations were determined. The newborns were evaluated for such conditions as perinatal asphyxia, hypoglycemia, intrauterine growth retardation, and macrosomia. Maternal vascular disease was also assessed. The clinical features of these pregnancies are described with the fact noted that "the fetal, neonatal, and total perinatal death rates in the study group were nearly double those of our population as a whole during the same years." Amniotic fluid creatinine concentrations in these study cases were found to be "similar to those found at comparable gestation in uncomplicated pregnancy. Added maternal vascular disease significantly raises AF creatinine to such a degree that over estimation of fetal (renal) maturity is a clinical hazard if based solely on this parameter. Relative concentrations of creatinine in AF and maternal plasma (AF/MP ratio) are related to gestational age. Failure of AF creatinine to rise consistently on successive serial samples accompanies an increased risk of

perinatal death in the pregnancy complicated by diabetes, four of five deaths in the present series following declines in this measurement." Findings and implications are discussed.

90. Caterini, Herik; Langer, Alvin; Sama, Jahir C.; Devaneson, Mona; and Pelosi, Marco A.: "Fetal Risk in Hyperextension of the Fetal Head in Breech Presentation," *American Journal of Obstetrics and Gynecology*, 123:632-636, November 15, 1975.

The literature is reviewed, and seven short case reports are presented. Etiology and management of such cases are discussed. "Our seven cases plus a review of the literature led to the conclusion that hyperextension of the aftercoming head is a dangerous malpresentation that should not be underestimated. For this reason, we strongly suggest an x-ray of all breech presentations in early labor, not only to evaluate pelvic adequacy but also to determine the attitude of the head. In persistent hyperextension, cesarean section is the management of choice."

91. Cernerud, Lars: "The Setting-Sun Eye Phenomenon in Infancy," *Developmental Medicine and Child Neurology*, 17:447-455, August, 1975.

The setting-sun phenomenon is explained, and the literature is reviewed. A group of 19 infants who displayed this phenomenon were studied as described during their first year of life. "At each examination the setting-sun phenomenon was analysed with regard to its constituent parts, duration and the mechanisms by which it was evoked. The results were correlated with the infant's clinical condition and developmental stage," assessed as described. This phenomenon was found to be elicited by removing the source of light, by altering the position of the infant, and in some cases was a spontaneous response with no detectable stimulus. These 19 infants were divided into three groups: those without increased intracranial pressure (9), those with transient increased intracranial pressure (2), and those with increased intracranial pressure (8). Findings for each group are presented. "The phenomenon can be observed in healthy infants, and its value in early recognition of increased intracranial pressure is limited. The response might indicate increased intracranial pressure if it can be elicited by alteration of position in infants older than four weeks of age or if there is a marked response to removal of light in infants younger than eight weeks or older than 20 weeks of age, especially if the response is combined with constant or intermittent strabismus or undulating eye-movements."

92. Chamberlain, Roma, and Davey, Alan: "Physical Growth in Twins, Postmature and Small-For-Dates Children," *Archives of Disease in Childhood*, 50:437-442, June, 1975.

The literature relating malnutrition in infancy to subsequent physical and mental development is reviewed. Three groups of children and a 10% random sample (controls) were selected for study from 16,955 livebirths that occurred in the United Kingdom. The three study groups were all the twin births, all postmature infants, and all small-for-dates infants. Terms are defined. Height, weight, and head circumference were examined in 73.6% of these children

as described at 22 months of age. "The babies that were heavier at birth showed diminished growth velocity and the small babies catch-up growth. At 22 months the pattern of distribution of weight was much closer to the normal than that of the babies' birthweights. Differences, however, did remain."

93. Chandra, Ranjit K.: "Fetal Malnutrition and Postnatal Immunocompetence," *American Journal of Diseases of Children*, 129:450-454, April, 1975.

A study is described in which the effect of fetal malnutrition on postnatal immunocompetence was investigated. A group of 26 infants, diagnosed as having fetal growth retardation (FGR) were evaluated and assessed regarding their development of humoral and cell-mediated immunity. Methods are described. These infants demonstrated a variety of defects in immunocompetence, "many of which parallel observations in older infants and in children with malnutrition acquired postnatally." Findings regarding the antibody response to tetanus toxoid, poliovirus vaccine, as well as the development of cell-mediated immunity are described.

94. Chang, Henry; Hobbins, John C.; Cividalli, Gabriel; Frigoletto, Fredric D.: Mahoney, Maurice J.; Kan, Yuet Wai; and Nathan, David G.: "In Utero Diagnosis of Hemoglobinopathies," *New England Journal of Medicine*, 290:1067-1068, May 9, 1974.

Subjects in this reported study were women in the early second trimester of pregnancy who were to have elective therapeutic abortion. In the first group of women an attempt was made to obtain fetal blood for analysis by needle aspiration of the placenta without fetoscopic visualization in nine patients. A sufficient number of fetal cells for analysis was obtained in only three patients. The β/γ ratios in these three patients are presented. Fetoscopy was then utilized for visualization in four other patients. "Visualization greatly improved the yield of fetal cells, which were obtained by direct puncture of chorionic vessels overlying the posterior placenta. Indeed, the red cells leaking into the amniotic fluid in the immediate area of the vessel puncture usually contained a higher percentage of fetal cells than the sample directly aspirated from the vessel." This finding is explained, a typical radiochromatograph is reproduced, and the β/γ ratios for these four patients are presented. "We may conclude that the intrauterine diagnosis of severe hemoglobin disorders now seems much closer to reality. Homozygous sickle-cell disease should be detectable, and β- thalassemia as well, if the thalassemia gene is expressed in the first trimester."

95. Chaube, Shakuntala, and Swinyard, Chester A.: "The Present Status of Prenatal Detection of Neural Tube Defects," *American Journal of Obstetrics and Gynecology*, 121:429-439, February 1, 1975.

Experimental and clinical data concerning the prenatal detection of neural tube defects are presented, and approaches made to this problem by the authors are explained. The use of changes in amniotic fluid proteins as indicators of a fetus with myelomeningocele is stressed. "When biological variables are recognized, it is evident that increased concentration of amniotic fluid alpha fetaprotein is a reliable indicator of fetuses with open myelocele and/or anencephalus." Research with beta, trace protein is also mentioned. There is a lengthy bibliography.

96. Chavalitdhamrong, P-O; Escobedo, M.D.; Barton, L.L.; Zarkowsky, H.; and Marshall, R.E.: "Hyperbilirubinaemia and Bacterial Infection in the Newborn," *Archives of Disease in Childhood*, 50:652-654, August, 1975.

In order to determine any association between hyperbilirubinemia and bacterial infection in newborns, 69 neonates having hyperbilirubinemia as defined were prospectively studied regarding the incidence of bacterial infection. "Blood and urine cultures were obtained from all patients, and 22 patients had their CSF cultured. Bacterial infection was documented in only two infants, who had asymptomatic Gram-negative urinary tract infections." It is concluded that "bacterial infection is an infrequent cause of unexplained hyperbilirubinaemia in our patients. Our results indicate that urinary tract infections in the first week of life can be associated with jaundice, but the data are insufficient to document a cause-effect relation."

97. Chen, Andrew T.L.; Falek, Arthur; and Lester, William: "Chromosome Studies in Premature Low Birth Weight Infants," *Acta Paediatrica Scandinavica*, 64:657-658, July, 1975.

Previous findings regarding an association observed between chromosome anomalies and full-term low birth weight infants are mentioned. The cord blood of 410 premature low birth weight neonates (PLBWN) and an equal number of controls was analyzed. No chromosome anomalies were found in the 410 PLBWN, but two described chromosome disorders were noted in the control infants. "It appears, therefore, that while chromosome abnormalities can account for a proportion of full-term low birth weight infants, they do not play a role in the etiology of low birth weight babies born prematurely."

98. Chess, G.F.; LaBelle, K.S.; Milne, J.K.; and Calaresu, F.R.: "Spectral Analysis as a Diagnostic Aid in the Management of High-Risk Pregnancy," *American Journal of Obstetrics and Gynecology*, 121:471-474, February 15, 1975.

Data was obtained regarding fetal heart rate and intrauterine pressure during labor from 24 patients who were delivered of their infants in an obstetrical and neonatal intensive care unit. Spectral analysis of this data was then done as described. Findings are presented, and "in conclusion, it is further suggested that an investigation of the joint statistics of the variance and the mean of the base-line component of the fetal heart rate may well lead to the development of a statistically reliable clinical aid to the early diagnosis of incipient fetal distress."

99. Ch'ien, Lawrence T.; Whitley, Richard J.; Nahmias, Andre J.; Lewin, Edward B.; Linnemann, Calvin C., Jr.; Frenkel, Lawrence D.; Bellanti, Joseph A.; Buchanan, Robert A.; and Alford, Charles A., Jr.: "Antiviral Chemotherapy and Neonatal Herpes Simplex Virus Infection: A Pilot Study-Experience with Adenine Arabinoside (ARA-A)," *Pediatrics*, 55:678-685, May, 1975.

Presented are the findings of a study in which 13 newborns with herpes simplex virus (HSV) infection were treated with adenine arabinoside (ara-A) as explained. Toxicological monitoring was conducted during the administration of the drug.

These cases and the clinical course of the disease in the infants are further described. "In all, ara-A administration was begun within three to eight days after the appearance of skin vesicles which represented the hallmark of the disease. Both diagnosis and ara-A treatment were much delayed in one infant without skin vesicles and four infants whose skin vesicles appeared late, long after the occurrence of CNS damage. In this group of infants with disseminated disease, four died and one infant was left with severe neurological deficits. Eight infants (four with disseminated and four with localized skin disease) with skin vesicles as the earliest sign of infection received ara-A early, within three days after the onset of neurologic signs. All survived with no neurologic deficit at 6 months to 1 year of age. There was no apparent toxicity of ara-A to the bone marrow, liver, or kidney."

100. Chow, Anthony W.: "Genital Infection with Type 2 Herpes Simplex Virus," *Postgraduate Medicine*, 58:66-70, August, 1975.

Herpes genitalis is viewed as being an important venereal disease. It is discussed in relation to its incidence, epidemiologic aspects, clinical features, complications, differential diagnosis, confirmation of diagnosis, prevention, and treatment. Although the infection is generally self-limiting, it may pose a serious risk to the fetus when occurring during pregnancy. Risks to the fetus include those of spontaneous abortion, prematurity, neonatal herpes, and congenital anomalies. Genital herpes has also been linked to an increased risk of cervical cancer.

101. Christoffel, Katherine K., and Salafsky, Ira: "Fetal Alcohol Syndrome in Dizygotic Twins," *Journal of Pediatrics*, 87:963-967, December, 1975.

A case report is presented of fraternal twins, one of whom "was severely affected at birth with the stigmata of the fetal alcohol syndrome while the other was only minimally affected." It is concluded that "offspring of alcoholic mothers should be carefully examined for stigmata of the fetal alcohol syndrome, and even the presence of a few stigmata should be considered a warning of future developmental delay."

102. Cibils, Luis A.: "Clinical Significance of Fetal Heart Rate Patterns During Labor. II. Late Decelerations," *American Journal of Obstetrics and Gynecology*, 123:473-494, November 1, 1975.

The data accumulated over a three and one half year period at a university center from "continuous 'direct' electronic monitoring" of high risk patients in labor were analyzed. Out of 1,304 cases studied, "147 presented late decelerations and 598 had no decelerations at the time the first stage was completed, or a cesarean section decided upon. A variety of clinical aspects of mother and fetus were analyzed, considering some alterations observed in the FHR pattern. Apgar scores were lower among decelerations, and there was a negative correlation between these two. Maternal pathology, other than PRM [premature rupture of membranes], was higher among decelerations and these required enhancement more often. There was very high association with tachycardia, saltatory, and fixed baseline among decelerations, and these infants were very often distressed and born depressed. Within the group of decelerations, small fetuses had lower Apgar scores. There was a negative correlation

between number of decelerations and Apgar score. The small fetuses had a high incidence of tachycardia and fixed baseline, saltatory being almost absent. Their neonatal outcome was poor." The pathophysiology and clinical significance of late decelerations are considered, and 11 conclusions are listed. Further discussion is conducted after the text by Drs. William J. Dignam, Edward J. Quilligan, and Cibils.

103. Clancy, Helen, and McBride, G.: "The Isolation Syndrome in Childhood," *Developmental Medicine and Child Neurology*, 17:198-219, April, 1975.

This article is presented in two parts. In Part I the Isolation Syndrome and its diagnosis are described. This syndrome is conceived as being a new diagnostic category "to describe a pattern of behaviour which occurs when children are in certain situations or have certain primary disorders." Four aspects of the Isolation Syndrome are discussed. The first of these is the behavioral characteristics seen in this syndrome including a defective social interaction and communication between mother and baby, disorders of perception and motor skills, excessive self-stimulation, and general developmental retardation. The second aspect considered is the situations in which the Isolation Syndrome occurs, including the institutional setting, the separated child situation, the child in a situation with abnormal family relationships, "the child in a family in which abnormal relationships develop as a result of the child's primary condition," and in the situation of infantile autism. The third aspect is that "the Isolation Syndrome is a family disorder," and the fourth aspect, developed in Part II, is treatment implications. The literature is reviewed and guidelines for diagnosis are also presented in detail in Part I. In Part II prophylactic and remedial methods of treating the Isolation Syndrome are discussed. The treatment procedure is outlined in detail, and the process of assessing the child's response to treatment is explained. "The purpose of identifying the Isolation Syndrome is to alert clinicians to the possibility that in some children with abnormal patterns of behaviour there is a specific and treatable difficulty in the child's environment."

104. Cockburn, Forrester, and Drillien, Cecil M., eds.: *Neonatal Medicine*. Oxford: Blackwell Scientific Publ., 1974. 873 pp.

This book is designed to be a guide to the disorders and management of the newborn infant. It consists of 25 chapters most of which deal with a specific neonatal problem, including Rh immunization and hemolytic disease, the low birth weight infant, congenital malformations, general neurology, systematic neurology, and infections. There are also chapters on pre- and postnatal assessment and care, facilities and procedures in special care, development in the first year of life, and perinatal autopsy. Contributors are listed. There are reference lists following each chapter, several appendices, and a subject index.

105. Cohen, Shirley: "Integrating Children with Handicaps into Early Childhood Education Programs," *Children Today*, 4:1:15-17, January-February, 1975.

This integration is discussed in relation to the Economic Opportunity Act Amendments of 1972 which require that at least 10% of children in Head Start programs be handicapped children. Questions that should be considered when

planning for this Head Start integration are posed and discussed. The need for individualization in the program is stressed. Also discussed are the relationship between the teacher and the handicapped child, the relationship between the handicapped child and other children in the group, and the fact that not all the needs of all handicapped children can be met in the integrated programs.

106. Cohen, Wayne R.; Schifrin, Barry S.; and Doctor, Geeti: "Evaluation of the Fetal Presenting Part: A Method of Intrauterine Resuscitation," *American Journal of Obstetrics and Gynecology*, 123:646-649, November 15, 1975.

Four case reports are presented to describe the experience of the authors with cases of severe variable decelerations of the fetal heart rate during labor and the correction of these patterns by elevation of the fetal presenting part. Findings are discussed, and it is concluded that "when standard measures of intrauterine resuscitation do not relieve severe recurrent variable decelerations, elevation of the fetal presenting part may be a salutary procedure. This may relieve or improve fetal hypoxia related to an occult cord prolapse or other causes of severe variable decelerations."

107. Collins, Raymond C.: "Toward a Future Strategy for Child Development," *Children Today*, 4:4:11-13+, July-August, 1975.

Discussed is the current state of programs and services for young children in this country, and the "raging national debate over the purpose of child care and the nature of children's programs, as well as over who should have responsibility for managing delivery of these services." It is felt that the real debate is centered on the institutions involved and not on the children themselves. The increased need for child care is considered, and recent innovative programs are described, including Home Start, Head Start Services to Handicapped Children, and the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program of Head Start in collaboration with Medicaid. A checklist is presented which "attempts to highlight principles that must be considered as we formulate future policy and programs for young children." "In summary, I have described here a pluralistic institutional approach in which parents, Head Start programs, public schools, day care centers, health institutions and other community groups work together. No one who can contribute to the needs of the child is excluded from participation, and no one need have a monopoly to make the system work. This, I believe, is the essence of an approach to a child-centered strategy."

108. Comline, R.S., and Silver, Marion: "Placental Transfer of Blood Gases," *British Medical Bulletin*, 31:25-31, January, 1975.

Much research in this area is reviewed including experimental studies during late gestation on blood gas tensions in fetal and maternal blood, on blood flow and oxygen supply to the fetus, and on fetal and placental oxygen consumption. Also reviewed are experimental studies during parturition on oxygen tension, Co_2 tension and pH changes during labor, and on intrauterine pressure changes, and effects on blood flow and oxygen transfer. "Much more evidence is required before we can understand the complex series of events that guard the majority of newborn animals from ill effects during their transition to an independent existence. It is now recognized that the real danger of asphyxia is not during

the latter part of gestation nor even during parturition apart from the hazards such as compression of the cord, but after expulsion of the fetus, when the dormant mechanisms matured during gestation must rapidly come into play to ensure an independent existence."

109. Cook, Larry N.; Shott, Roger J.; and Andrews, Billy F.: "Acute Transplacental Ethanol Intoxication," *American Journal of Diseases of Children*, 129:1075-1076, September, 1975.

"With the use of ethanol in hyperalimentation regimens and for the inhibition of premature labor, there is increased opportunity for exposure of the fetus to this potentially toxic substance." A case is described of a depressed male infant born to a woman after the acute ingestion of ethyl alcohol at home to relieve labor pains. The literature is reviewed.

110. Cook, Larry N.; Shott, Roger J.; and Andrews, Billy F.: "Fetal Complications of Diagnostic Amniocentesis: A Review and Report of a Case with Pneumothorax," *Pediatrics*, 53:421-424, March, 1974.

A case report of tension pneumothorax in a newborn infant resulting from diagnostic amniocentesis is presented. The literature concerned with maternal and fetal complications of this procedure is reviewed.

111. Coop, Richard H.; Eckel, Elaine; and Stuck, Gary B.: "An Assessment of the Pictorial Test of Intelligence for Use with Young Cerebral-Palsied Children," *Developmental Medicine and Child Neurology*, 17:287-292, June, 1975.

Methods used to assess the intelligence of cerebral palsied children are reviewed. The Pictorial Test of Intelligence (PTI), including the six sub-tests, is then described. The PTI, the Peabody Picture Vocabulary Test (PPVT), and the Columbia Mental Maturity Scale (CMMS) were administered by the same person to 46 cerebral palsied children, ages four to seven years, who attended schools for handicapped children in Philadelphia. The purpose of administering these tests was to determine the concurrent and predictive validity of the PTI with cerebral palsied children. Data analysis methods are explained. "The results, compared with a classroom Achievement Rating Scale, showed the Pictorial Test of Intelligence to be superior to the other two tests as a predictor of classroom achievement of the children in this study." The advantages of the PTI are discussed.

112. Cooper, Jay M.; Soffronoff, Ernest, C.; and Bolognese, Ronald J.: "Oxytocin Challenge Test in Monitoring High-Risk Pregnancies," *Obstetrics and Gynecology*, 45:27-33, January, 1975.

A total of 116 oxytocin challenge tests (OCTs) were performed on 89 high-risk pregnant patients. Estriol determinations on 24-hour urine collections were also conducted. Two of the 116 OCTs were uninterpretable. The OCTs were divided into three categories as defined: positive, equivocal, and negative. Findings are presented in each of these categories. "Thirteen positive tests were recorded; however, in only 2 cases did the positive OCT predict a

dysmature - postmature infant when estriol determinations were normal." The use of OCT is further discussed, and conclusions are presented. "Concurrent use of serial OCT's and 24-hour urinary estriol determinations allows accurate antepartum monitoring of high-risk pregnancies. Intrauterine fetal demise will not follow within a week of a negative OCT, whereas prompt delivery following a positive OCT will further reduce the incidence of fetal wastage."

113. Crawford, J.W.: "Computer Monitoring of Fetal Heart Rate and Uterine Pressure," *American Journal of Obstetrics and Gynecology*, 121:342-350, February 1, 1975.

Described is the progress made at the University of Dundee, Scotland with the utilization of digital computers in the monitoring of the fetal heart rate and intrauterine pressure. Background information is presented along with the objectives of the series of studies being conducted, the method used, and the results being obtained. "In this preliminary study two computers were used: One initially to collect data and later to give comment and advice as the data was collected and the other for in-depth analysis of the previously collected data. On the basis of this new information a new way of analyzing and categorizing labor is suggested and some of the clinical impact so far achieved is described."

114. Cristarella, Mary C.: "Comparison of Straddling and Sitting Apparatus for the Spastic Cerebral-Palsied Child," *American Journal of Occupational Therapy*, 29:273-276, May/June, 1975.

The literature is reviewed, and the sitting posture of the spastic cerebral palsied child in both a standard chair and on straddling equipment are discussed. Several drawings of sitting and straddling postures and apparatus are presented. The benefits of using straddling equipment are illustrated in drawings of a two year old spastic cerebral palsied girl. "The subject demonstrated improved sitting posture while using a straddling device as compared to that using a standard chair. This improvement in sitting posture offered the subject an opportunity to engage in bilateral hand skills."

115. Crosby, Warren: "Fetal Respiratory Distress Following Fetography," *American Journal of Obstetrics and Gynecology*, 121:958-960, April 1, 1975.

The use of fetography to outline the fetus prior to intrauterine transfusion is explained. A case report is presented to illustrate "an unexpected and previously unreported complication of fetography," severe respiratory distress after birth produced by the aspiration of the oil-soluable dye by the fetus when the dye was injected into the amniotic fluid.

116. Crosley, Carl J.; Chee, Claire; and Berman, Peter H.: "Rickets Associated with Long-Term Anticonvulsant Therapy in a Pediatric Outpatient Population," *Pediatrics*, 56:52-57, July, 1975.

Compared regarding the presence of biochemical and radiologic rickets were 74 children who were receiving anticonvulsants and 95 matched control children who were not receiving anticonvulsants. All children were ambulatory, lived

at home, and were thought to be receiving adequate nutritional diets. Data on alkaline phosphatase, calcium, and phosphorus levels and on radiologic abnormalities detected are presented for all children and also for the children in subdivided age groups. "Elevations of serum alkaline phosphatase activity occurred in 31 of the 74 (42%) treated children (23 of 47 children between 2 and 10 years and 8 of 21 children between 10 and 16 years). This frequency of abnormal values was significantly greater than that which occurred in our control population. Calcium and phosphorus abnormalities were minimal in both treated and control populations. Radiologic rickets occurred in 6 of the 74 (8%) of the treated children and in none of the control population. Neither the severity of the rickets nor the degree of hyperalkaline phosphatasemia were correlated with age of the patient, duration, and/or dose of anticonvulsant therapy." Findings are discussed, the literature is reviewed, and implications are considered.

117. Crumrine, Patricia K.; Koenigsberger, M. Richard; and Chutorian, Abe M.: "Footdrop in the Neonate with Neurologic and Electrophysiologic Data," *Journal of Pediatrics*, 86:779-780, May, 1975.

Three case reports are presented of infants in whom footdrop was noted at birth. Neurologic and electromyographic data on these infants are reported, and etiology is discussed. "Recovery was complete in all three infants."

118. Cruz, A.C.; Buhi, W.C.; and Spellacy, W.N.: "Comparison of the Fetogram and L/S Ratio for Fetal Maturity," *Obstetrics and Gynecology*, 45:147-149, February, 1975.

An x-ray fetogram for distal femoral epiphysis (DFE) to assess skeletal maturation and an amniotic fluid L/S ratio determination for lung maturation were performed within 72 hours of each other in 254 patients in whom assessments of fetal maturity were needed for medical reasons. Findings were compared. "The DFE results gave a 40% false-positive rate in predicting a mature L/S ratio (> 2.0) and a 38.7% false-negative rate. Of the 21 patients who delivered within 3 days of the performance of the two tests, all neonates did well when there were no visible DFE's but a mature L/S ratio. There is a significant lack of specificity and sensitivity of the fetogram DFE's in predicting a mature L/S ratio. Since infant lung maturation is a critical factor in predicting neonatal survival, these results suggest that the x-ray DFE is unacceptable as a single maturity test for use in a perinatal center managing complicated obstetric cases."

119. Curless, Richard G., and Nelson, Marilyn B.: "Needle Biopsies of Muscle in Infants for Diagnosis and Research," *Developmental Medicine and Child Neurology*, 17:592-601, October, 1975.

The literature is reviewed, and the experience of the authors with needle biopsies of muscle in young children is reported. The procedure used is described in detail as are results of 15 quadriceps biopsies performed on 14 infants, ages four months to three years three months. "All had marked hypotonia with a resultant delay in motor developmental milestones." "In adults, needle biopsies of muscle have been used to aid in diagnosis of neuromuscular disorders, with considerable success. The simplicity of the method and the high quality of the

samples obtained in the present study suggest that further evaluation of the technique in infants and small children is warranted, and that needle biopsy may in future take precedence over the more commonly used open technique."

120. Curran, J.T.: *Fetal Heart Monitoring*. London, Boston: Butterworths, 1975. 135 pp.

After the subject of fetal heart monitoring is introduced in Chapter 1, the author reviews the world literature on the physical techniques, the presentation of the data, and clinical studies on the subject. Other aspects considered in separate chapters include fetal distress and sequelae of fetal distress, physical methods of detecting the fetal heart, the recording and presentation of data, fetal electrocardiography, fetal phonocardiography, ultrasonic fetal cardiography, indirect fetal cardiography, and antenatal and intrapartum clinical applications of fetal heart monitoring. References are listed, and there is an index.

121. Cyrulik-Jacobs, Antoinette; Shapira, Yehuda; and Jones, Margaret H.: "Automatic Operant Response Procedure ('Playtest') for the Study of Auditory Perception of Neurologically Impaired Infants," *Developmental Medicine and Child Neurology*, 17:186-197, April, 1975.

The principles of the 'Playtest' technique and its previous usage are reviewed. It is a behavioral analysis technique designed to assess auditory perception. In order to determine if cerebral palsied infants were able to operate the described 'Playtest' toys and to determine whether a reliable baseline procedure for handicapped infants could be established, ten cerebral palsied infants, ages ten to 27 months, were selected to participate in an exploratory study of the 'Playtest.' These subjects, the instrumentation, methods, and results are described. "The major components of the 'Playtest' are a master control unit and two toy-like switches which are attached to the baby's crib. By playing with the 'toys,' the baby is able to listen to one of the two prerecorded audio stimuli, music or a monotone hum. Frequency and duration of the baby's self-selected listening responses are authomatically recorded on meters inside the control unit and provide a precise numerical record over an extended period of time." "The findings suggest that the 'Playtest' technique could be successfully applied to the objective assessment of auditory perception and processing abilities of neurologically impaired infants, whose handicaps often prevent them from effectively participating in other standardised test procedures." The findings are discussed, and the principle advantages of the 'Playtest' technique are listed.

122. Dancis, Joseph, and Hwang, Joseph C., eds.: *Perinatal Pharmacology: Problems and Priorities*. New York: Raven Press, 1974. 228 pp.

Contained in this volume are the proceedings of a conference held in Bethesda, Maryland in April, 1973 under the auspices of the Perinatal Biology and Infant Mortality Program of the National Institute of Child Health and Human Development of the U.S. Public Health Service. Presentations were made under five broad subdivisions of perinatal pharmacology. These are differentiation, drug effects in tissue and organ culture, the placenta, nutritive factors, and narcotics. Discussions of the articles are summarized, and reference lists are included. The articles are indexed.

123. Danks, David M.: "Management of Newborn Babies in Whom Serious Metabolic Illness Is Anticipated," *Archives of Disease in Childhood*, 49:576-578, July, 1974.

Explained is the plan of management for such newborns that is employed at the Royal Children's Hospital at the University of Melbourne, Australia. Results are presented for six babies on whom the plan was used. Four of the infants proved to be normal, one infant died at age 14 days, and successful treatment was carried out on one infant who had citrullinemia. This latter case is described.

124. Davies, D.P.; Ansari, B.M.; and Cooke, T.J.H.: "Anterior Fontanelle Size in the Neonate," *Archives of Disease in Childhood*, 50:81-83, January, 1975.

A method of measuring the anterior fontanelle size in neonates is described. This method was used to study term, preterm, and small-for-dates infants, as defined, on the third day of life. Findings indicated that the anterior fontanelle size enlarges with gestational age. "Small-for-dates infants have significantly larger anterior fontanelles than either preterm or term infants. Knowledge of the normal variation in anterior fontanelle size may be of help in the early diagnosis of congenital hypothyroidism or provide a clue to other disorders of skeletal development."

125. Davies, Pamela A., and Stewart, Ann L.: "Low-Birth-Weight Infants: Neurological Sequelae and Later Intelligence," *British Medical Bulletin*, 31:85-91, January, 1975.

The terms, low birth weight (LBW), small for dates (SFD) and appropriate for dates (AFD) are defined. Findings from numerous studies are then reported concerning such factors as the characteristics of LBW infants; changes seen in survival rates; neurological sequelae frequently detected, including cerebral palsy and other central nervous system disorders, and visual and hearing defects; the intelligence, learning difficulties, and behavioral disorders found in LBW children; and factors that may influence the outcome in these infants, such as hypoxia, nutrition and hypothermia, hypoglycemia, and moderate hyperbilirubinemia. It is concluded that "while the outlook for LBW infants is now much more encouraging, the incidence of both major and minor handicaps is still unacceptably high. Further improvements in perinatal care are likely to reduce the incidence of major handicap even more, but it is not clear whether

they will affect the incidence of minor problems such as learning difficulties or poor school performance. More prospective follow-up studies are necessary to clarify those points, and to ensure that any new iatrogenic handicap is identified early. Follow-up studies must also be concerned to detect children with learning difficulties at an early stage, so that they may receive the extra educational help they need to achieve their full potential."

126. Davies, Pamela A., and Tizard, J.P.M.: "Very Low Birthweight and Subsequent Neurological Defect (with special reference to spastic diplegia)," *Developmental Medicine and Child Neurology*, 17:3-17, February, 1975.

The literature and the clinical characteristics of spastic diplegia of very low birthweight are reviewed, and the declining incidence of diplegia in low birthweight infants is discussed. A study is then presented in which 165 of 170 infants, born between 1961-1970 and weighing 1500 g. or less at birth, were followed to determine the incidence of neurological handicap. The infants were divided into two groups for comparison on the basis of birthdate, 1961-1964 and 1965-1970, because of described changes made in neonatal care during this study period at the hospital at which the infants were cared for. The incidence of visual, hearing, intelligence, cerebral palsy, and other neurological abnormalities found in these children at follow-up are reported, and the data are analyzed. Spastic diplegia was found to occur "in six children (3.6 per cent), all of whom were born during the 1961-64 period, an incidence in those years of 10.3 per cent, compared with 0.0 percent in the period 1965-70....These findings are considered in the context of perinatal illness and care. The one statistically significant difference found between the children with and without spastic diplegia in the earlier period was a somewhat lower mean minimum rectal temperature on the first day of life only."

127. deCastro, A. Fernandez; Usategui-Gomez, M.; and Spellacy, W.N.: "Amniotic Fluid Components as Determinants of Fetal Maturity," *Obstetrics and Gynecology*, 46:16-79, July, 1975.

In order "to determine what was the most desirable amniotic fluid test or combination of tests needed to predict fetal maturity," amniotic fluid amylase activity, the lecithin/sphingomyelin (L/S) ratio, the percentage of fat cells, and the concentrations in amniotic fluid of protein, creatinine, and bilirubin were determined in amniotic fluid samples obtained from 99 women. Methods are described. The L/S ratio was used as the standard test, and all the other tests were compared to it. The ability of each parameter to accurately predict both gestational age and fetal birthweight was investigated. "In general, single components and combinations of two or three of the tests did not significantly enhance the predictive accuracy or reduce the error from that obtained with the L/S ratio used alone."

128. de la Burdé, Brigitte, and Choate, McLin S.: "Early Asymptomatic Lead Exposure and Development at School Age," *Journal of Pediatrics*, 87:638-642, October, 1975.

Compared on neurologic examinations at ages seven and eight years and on psychologic tests at age seven years were 67 children who were exposed to lead at

one to three years of age but were asymptomatic, and 70 matched children who had no known significant exposure to lead. Findings indicated that the children who had been exposed to lead "had deficits in global IQ and associative abilities, in visual and fine motor coordination, and in behavior. School failure problems was more frequent in the lead exposed than in the control group."

129. Denhoff, Eric; Feldman, Steven; Smith, M. Glenn; Litchman, Henry; and Holden, William: "Treatment of Spastic Cerebral-Palsied Children with Sodium Dantrolene," *Developmental Medicine and Child Neurology*, 17:736-742, December, 1975.

In a double-blind study the effects of dantrolene sodium were evaluated in 28 children, ages 18 months to 12 years, with spastic cerebral palsy. The types of cerebral palsy seen in these children, the design of the study, evaluation methods, additional medications given, and the procedure used are described. "There were two six-week treatment sessions, separated by a two-week 'washout' period." Findings indicated that "while five of the 28 children showed marked benefit in various functioning areas from the drug as compared with the placebo, in no case did all of the observers agree about improvement. Ten showed moderate to marginal improvements and 13 showed no consistent differences. Minor side-effects were transient, but three children in whom the drug was continued after the study period had increased seizures and a fourth who had had no previous seizure and a normal EEG developed fits. Parents reported a small but definite improvement in activities of daily living during the period of drug administration."

130. Deonna, Thierry; Payot, Maurice; Probst, Alphonse; and Prod'nom, Louis-Samuel: "Neonatal Intracranial Hemorrhage in Premature Infants," *Pediatrics*, 56:1056-1064, December, 1975.

Retrospectively studied and followed-up were 11 premature infants, born between 1968-1972, who had been diagnosed as having post-hemorrhagic hydrocephalus secondary to neonatal intracranial hemorrhage. Four objectives of the study are listed as well as five criteria of post-hemorrhagic hydrocephalus. Of these 11 infants, nine were still alive. The general management of these infants is described, and perinatal data is summarized. Of the 11 infants, only one did not suffer asphyxia, and only two could be considered neurologically normal at age 15 months. "The perinatal history, laboratory data, clinical evaluation, and neurological outcome were studied. Two groups of infants were identified: those with signs of acute neurological deterioration in the neonatal period who had the most severe neurological sequellae (in four cases, periventricular lesions in addition to hydrocephalus were seen on the air study and in one case confirmed at autopsy) and those showing no obvious neurological signs in the neonatal period. Of this latter group, two appear to be developing normally. The therapeutic implications of the findings are discussed." Results of a detailed neuropathological study conducted in one case are also presented.

131. De Souza, S.W.; John, R.W.; Richards, B.; and Milner, R.D.G.: "Fetal Distress and Birth Scores in Newborn Infants," *Archives of Disease in Childhood*, 50:920-926, December, 1975.

A group of 2,791 newborns, having gestational ages of from 28 to 44 weeks, were studied to determine the relation between fetal distress, as defined, and the

subsequent condition of the infant at birth, as determined by a birth score. The infants were subdivided by gestational age. A birth score of six was the maximum possible. Methods of assessing fetal and neonatal conditions are explained. "Fetal distress was associated with low birth scores in infants at 1 and 5 minutes of age. Among those who had not suffered fetal distress a significantly greater proportion of preterm infants had low birth scores compared with term or post-term infants at 5 minutes of age. Infants did not score equally for colour, heart rate, and respiration at 1 and 5 minutes of age. Colour usually gave a birth score of 5 and heart rate was recordable when infants scored 0 for colour and respiration. The reduction in birth scores was greater in the presence of meconium-stained and abnormal fetal heart rate than meconium-stained liquor alone; the latter being an early sign of fetal distress. Since fetal distress was not diagnosed by conventional methods in 93 term infants who probably suffered prenatal asphyxia, more sophisticated techniques are necessary for an accurate assessment of fetal condition during labour."

132. Di Tomasso, John; Gordon, Suana; and Herbst, Meryle: "Adjustable Forearm Crutch," *Physical Therapy*, 55:1106-1107, October, 1975.

Such a crutch is pictured, and its construction is described.

133. Dixon, Morris S., Jr.: "EPSDT (Early and Periodic Screening, Diagnosis and Treatment Programs)," *Pediatrics*, 54:84-90, July, 1974.

Provisions of Title XIX of the Social Security Act and its 1967 Amendments are reviewed. Then considered are the goals and the federal, regional, and state roles in the EPSDT Program. Progress in this Program, the role of the American Academy of Pediatrics in the Program, and further comments on the Program are also presented.

134. Dobbing, John: "The Later Growth of the Brain and Its Vulnerability," *Pediatrics*, 53:2-6, January, 1974.

The author reviews studies and presents his thoughts on the vulnerability of the developing brain, with emphasis placed on the importance of the so-called 'growth spurt' period.

135. Dobbs, R.H., and Cremer, R.J.: "Phototherapy," *Archives of Disease in Childhood*, 50:833-836, November, 1975.

The authors relate the beginnings of phototherapy as treatment for jaundiced infants in the 1950's (Dr. Dobbs), and subsequent developments and observations in this area (Dr. Cremer).

136. Dobson, Velma; Cowett, Richard M.; and Riggs, Lorrin A.: "Long-Term Effect of Phototherapy on Visual Function," *Journal of Pediatrics*, 86:555-559, April, 1975.

Studied were 15 children, age four years, who as infants had received at least 42 consecutive hours of continuous phototherapy for neonatal hyperbilirubinemia. Electroretinographic methods were used to assess the scotopic retinal functioning of these children, and procedures are described. Other ophthalmologic examinations and a neurologic examination were also given. Findings indicated that "dark adaptation functions of the children were similar to those previously found for control subjects, suggesting that no permanent damage to rod function had been incurred during exposure. Statistical analysis showed no significant differences in the final electroretinographic amplitudes of light-treated and control subjects. Ophthalmologic and neurologic examinations were also negative."

137. dos Remedios, Leo V., and Weber, Paul M.: "Dynamic/Static Brain Scintigraphy in Neonates," *Clinical Pediatrics*, 14:595-599, June, 1975.

The value of nuclear medicine in the diagnosis of infants suspected of serious central nervous system problems is discussed. Three case reports of infants are presented "to illustrate and emphasize the diagnostic scope and prognostic value to neonatologists of the brain blood flow study combined with static brain scintigraphy." The first infant presented "with a probable intercerebral hemorrhage, the second with an intracranial vascular anomaly [and] the third with a cerebral malformation." Methods and advantages are described.

138. Dott, Andrew B., and Fort, Arthur T.: "The Effect of Availability and Utilization of Prenatal Care and Hospital Services on Infant Mortality Rates. Summary of the Findings of the Louisiana Infant Mortality Study. Part II," *American Journal of Obstetrics and Gynecology*, 123:854-860, December 15, 1975. (Series: For I See #139.)

Part II of this study is concerned with identifying those health care delivery factors that are associated with excessive infant mortality rates in Louisiana. Reviewed in the study were 69,556 birth and 1,541 death certificates from Louisiana in 1972. Methodology for the study is fully explained in Part II. "Infant, neonatal, and postneonatal mortality rates were computed for number of prenatal visits, type of hospital delivery, hospital vs. non-hospital delivery, and geographical access to health care. The mortality rates were twice as great for infants born outside of hospitals. With no prenatal care, the infant mortality rates were between four- and tenfold greater than the rates of women receiving more than nine visits even when race, poverty, geography, and birth weight were considered. Infant mortality rates were twice as high in the neonatal period and three times greater in the postnatal period among the poor who utilized charity hospitals." Findings are discussed and four "broad approaches to make antenatal care more attractice to low utilizers are suggested." It is also suggested that the method used in this study to detect those at risk of excessive infant deaths could be incorporated in the computing of state vital statistics to provide more information and better analysis of infant mortality data.

139. Dott, Andrew B., and Fort, Arthur T.: "The Effect of Maternal Demographic Factors on Infant Mortality Rates. Summary of the Findings of the Louisiana Infant Mortality Study. Part I," *American Journal of Obstetrics and Gynecology*, 123:847-853, December 15, 1975. (Series: For II See #138.)

The literature is reviewed, and the Louisiana Infant Mortality Study is explained. All recorded birth and infant death certificates for Louisiana in 1972 were matched and analyzed. Infant, neonatal, and postnatal mortality rates were computed for various listed maternal demographic factors. Computed findings are presented. "Excessive infant deaths were found among illegitimate offspring, except in mothers less than 15 years of age or nonwhites over 35 years of age; the less educated; those having too many children too soon; those of low birth weight; and whites relying on Charity Hospitals. An increased mortality rate was seen with nonwhites and with the younger and older mothers."

140. Douglas, J.W.B.: "Early Hospital Admissions and Later Disturbances of Behaviour and Learning," *Developmental Medicine and Child Neurology*, 17:456-480, August, 1975.

A study of described children, born during the first week of March in 1946 in Great Britain, was conducted to investigate whether any relationship existed between hospital admissions during the first five years of life and disturbances in behavior or learning in adolescence. Information was obtained on these patients at two year intervals or more frequently. Methods of obtaining data on the hospital admissions, ratings and assessments of disturbed behavior, and statistical methods are explained. Among the findings presented are the behavior of these children on returning home after hospitalization, the adverse ratings found in adolescence, findings regarding reading handicap in adolescence, and findings regarding "factors influencing the vulnerability of children to early hospital admission," including age of admission, reasons for admission, and the family situation at the time of admission. "This study provides strong and unexpected evidence that one admission to hospital of more than a week's duration or repeated admissions before the age of five years (in particular between six months and four years) are associated with an increased risk of behaviour disturbance and poor reading in adolescence." "The children most vulnerable to early admission are those who are highly dependent on their mothers or who are under stress at home at the time of admission." "Thought should be given to how far home care can be safely substituted for hospital care for small children, especially those already under stress."

141. Downey, John A., and Low, Niels L., eds.: *The Child with Disabling Illness: Principles of Rehabilitation*. Philadelphia: W.B. Saunders, 1974. 627 pp.

The 27 chapters of this book are presented in five sections. There are four chapters on specific chronic medical illnesses; eight chapters on neuromuscular disorders, including spinal injury, spina bifida, and cerebral palsy; seven chapters on disorders and injuries of the musculoskeletal system, including childhood orthopedic syndromes, limb deficiency, scoliosis, foot deformities, and orthoses for children; one chapter on dental care for the handicapped child; and six chapters on psychosocial aspects. There are often lengthy bibliographies and an index.

142. Driscoll, Mary Cook: "Creative Technological Aids for the Learning-Disabled Child: An Interdisciplinary Project," *American Journal of Occupational Therapy*, 29:102-205, February, 1975.

Described in this article is the Creative Technological Aids (CTA) Project developed jointly by the Massachusetts Institute of Technology and the Kennedy Memorial Hospital for Children. Through this program four devices were created to be used in therapy with developmentally disabled children. The four toys include "Magic Lightpen, a flexible eye-hand coordination aid; Roadrunner, a visual-motor integration aid; Space Control, a versatile communication device for severely handicapped children; and Secret Code, a sequential visual-memory aid." These four are each described and pictured, and the results of evaluating them in clinical and community settings are presented. "Preliminary results show that these devices are highly motivational in teaching eye-hand coordination and perceptual-motor skills." Future plans for CTA are discussed.

143. Drotar, Dennis; Baskiewicz, Ann; Irvin, Nancy; Kennell, John; and Klaus, Marshall: "The Adaptation of Parents to the Birth of an Infant with a Congenital Malformation: A Hypothetical Model," *Pediatrics*, 56:710-717, November, 1975.

A study was conducted in which the parents of 20 children, having a wide range of congenital malformations, were interviewed seven days to 60 months after the birth of the child. Clinical data on the children and the format of the interview are presented. "Despite the wide variation of malformations, analysis of the interviews demonstrated five stages of parental reactions - shock, denial, sadness and anger, adaptation, and reorganization - in dealing with a congenitally malformed child during the course of his development and care. Observations of these patients suggest that early crises counseling in the first months of life may be particularly crucial in parental attachment and adjustment." Each of these stages are individually considered, and discussion of findings and of the literature is conducted.

144. Drummond, Denis S.; Rogala, Eugene; Templeton, John; and Cruess, Richard: "Proximal Hamstring Release for Knee Flexion and Crouched Posture in Cerebral Palsy," *Journal of Bone and Joint Surgery*, 56-A:1598-1602, December, 1974.

This procedure and the performance of the procedure in 30 children, ages four to 15 years, with 60 knee-flexion deformities are described. The cases of 25 of these children, who could be located, were reviewed, and the children were re-examined 18 to 50 months after the operation. Results of this re-examination are presented, and complications are described with a case report included to illustrate. "In the twenty-five who were available for review (fifty knees), the spastic knee-flexion deformity was corrected adequately; in most instances the crouch posture was corrected, gait was improved, and a longer stride was possible. However, increased lumbar lordosis developed in four and genu recurvatum, in seven. Total proximal release is therefore, no longer recommended."

145. Dubowitz, V.: "Neuromuscular Disorders in Childhood: Old Dogmas, New Concepts," *Archives of Disease in Childhood*, 50:335-346, May, 1975.

Advances in the field of childhood neuromuscular disorders are historically reviewed with emphasis placed on recent diagnostic techniques and etiological theories. Two areas of experimentation in the past few years are described. These are the behavior of diseased muscle in tissue culture and the transplantation of muscle between normal and dystrophic animals.

146. Dudgeon, J.A.: "Congenital Rubella," *Journal of Pediatrics*, 87:1078-1086, December, 1975.

The literature is historically reviewed, the clinical manifestations of congenital rubella are discussed and listed in a chart, and the risk of fetal infection and damage to the fetus are explained. Prevention is then considered with a review of active immunization procedures and a comparison of vaccination policies in the United States and the United Kingdom. Also described is the National Rubella Surveillance Scheme in the United Kingdom.

147. Duhring, John L., and Thompson, Sue A.: "Amniotic Fluid Phospholipid Analysis in Normal and Complicated Pregnancies," *American Journal of Obstetrics and Gynecology*, 121:218-220, January 15, 1975.

Amniotic fluid was obtained and lecithin/sphingomyelin ratios were determined in 190 patients, of whom 63 were considered normal with the others having various listed complications of pregnancy. A corrected group of 127 patients was found in which amniotic fluid had been obtained within 72 hours of delivery. In this group there were 21 cases of respiratory distress of which 13 were cases of clinical hyaline membrane disease (CHMD). "When the L/S ratio was positive and the infant delivered vaginally, there was only one case of CHMD. However, when the patients had grave enough disease to warrant cesarean section, CHMD was encountered in seven cases out of 68 cesarean sections. Of the eight cases of CHMD, five were in mothers whose pregnancy was complicated by diabetes mellitus." "In the experience given in this report it seems that amniotic fluid phospholipid analysis in diabetic pregnancy may not always predict respiratory problems of the newborn." This is further discussed.

148. Dussault, Jean H.; Coulombe, Pierre; Laberge, Claude; Letarte, Jacques; Guyda, Harvey; and Khoury, Khalil: "Preliminary Report on a Mass Screening Program for Neonatal Hypothyroidism," *Journal of Pediatrics*, 86:670-674, May, 1975.

The relationship that has been found between neonatal hypothyroidism and neurologic and mental deficiencies, and the importance of early treatment are discussed. The authors have developed a rapid immunoassay method for measuring thyroxine which is described. Using this method, every newborn in Quebec is now being screened for neonatal hypothyroidism. "To date, from 47,000 measurements, three newborn infants with abnormally low TBG and seven hypothyroid infants have been detected. From these data we conclude that the frequency of congenital hypothyroidism is about one in 7,000 births and that our method is effective in detecting thyroid hormone abnormalities with an acceptable percentage of false positive measurements; no false negative results have occurred to our knowledge."

149. Dweck, Harry S., and Cassady, George: "Glucose Intolerance in Infants of Very Low Birth Weight. I. Incidence of Hyperglycemia in Infants of Birth Weights 1,100 Grams or Less," *Pediatrics*, 53:189-195, February, 1974.

Intravenous glucose was administered to 50 infants having birth weights of 1,100 grams or less and serum glucose levels were measured concurrently. The ages of the infants ranged from birth to ten and one half days. Of the 50 infants, 43 were found to be "hyperglycemic with serum glucose levels exceeding 125 mg/100 ml while receiving parenteral glucose," and in 36 infants, levels exceeded 300 mg/100 ml. "Hyperglycemia was most frequent in the 24 hours after birth and was also related to high rates of glucose infusion (> 0.4 gm/kg/hr from birth) as well as parenteral glucose administration in the absence of oral supplement." Of the 50 infants, 39 died in the nursery. Clinical implications are considered. Of the 39 infants who died, 32 were found at autopsy to have had intracranial hemorrhage, and 15 of the 32 had serum glucose levels over 600 mg/100 ml. "Clearly, a relationship between serum glucose exceeding 600 mg/100 ml (increasing osmolality more than 25 mOsm) and neonatal death accomplished by central nervous system bleeding is suggested by these data."

150. Dyson, Donald; Blake, Mary; and Cassady George: "Amniotic Fluid Lecithin/Sphingomyelin Ratio in Complicated Pregnancies," *American Journal of Obstetrics and Gynecology*, 122:772-781, July 15, 1975.

A total of 378 amniotic fluid samples were obtained and L/S ratios were determined in 223 pregnancies, including 71 complicated by maternal diabetes, 50 with vascular disease, and 29 with fetal growth retardation. "Elevated L/S ratios at 34 to 36 weeks' gestation were observed to accompany maternal vascular disease; higher ratios were also related to fetal sex (female) and race (black). Declining L/S ratios were observed in 14 of 35 diabetic patients studied serially (40 per cent) and were accompanied by increased perinatal morbidity and deaths." Each of these findings is discussed, and on the basis of these findings it is felt that there is "an urgent need for further studies concerning the clinical usefulness of a serial decline in the L/S ratio as a predictor of fetal compromise."

151. Edington, P.T.; Sibanda, J.; and Beard, R.W.: "Influence on Clinical Practice of Routine Intra-partum Fetal Monitoring," *British Medical Journal*, 3:341-343, August 9, 1975.

In order to assess this influence, an attempt was made to monitor by continuous fetal heart rate recording as many patients as possible over a two year period (1973-74) that were admitted to a London hospital in labor. These patients and the methods used are described. Findings indicated that "perinatal mortality fell significantly from levels in preceding years to 15.8 and 11.7 per 1000 births, respectively, in 1973 and 1974. The fall was primarily due to the elimination of intra-partum stillbirths and a significant reduction in neonatal mortality. The incidence of caesarean sections also fell from 9.7% in 1973 to 5.8% in 1974. All patients should be monitored because it is impossible to predict reliably intra-partum fetal distress from maternal 'high-risk' factors present before the onset of labour." Findings are discussed.

152. Edström, Karin, and Thalme, Bertil: "Infants of Mothers with a High and of Mothers with a Low Insulin Response to Glucose Infusion, Glucose Tolerance, Insulin Response and Clinical Appearance During the Early Neonatal Period," *Journal of Perinatal Medicine*, 3:21-33, 1975.

Studied and compared were 14 infants of mothers with a high insulin response to glucose (IHR) and 13 infants of mothers with a low insulin response (ILR). Classification of these mothers, clinical data on the infants, their management, a neonatal scoring system previously developed for evaluating infants of diabetic mothers (IDM), and statistical methods are explained. The results are presented with regard to the mothers during pregnancy and the infants, including fetal and neonatal conditions, intravenous glucose tolerance tests, and the neonatal score. Findings "indicate that the infants of low insulin responders - which would include the prediabetic individuals - might be affected during their fetal life in a way similar to infants of diabetic mothers, at least concerning their glucose tolerance and ability to respond rapidly to a glucose stimulus by an increase in insulin output. This finding could be an important clue for the detection of a prediabetic state in the mother - probably more important than a high birth weight."

153. Elis, Haskel O., and Spector, Paula: "Shoulder Rotator Device," *American Journal of Occupational Therapy*, 129:106-107, February, 1975.

Such a device, designed to increase glenohumeral range of motion, is described and pictured. Instructions regarding construction, assembly, and needed materials are included.

154. Evans, Elizabeth H.; Low, Jaclyn; and Allen, Ben L., Jr.: "The Pavlik Harness for Congenital Dislocated Hips," *American Journal of Occupational Therapy*, 29: 356-359, July, 1975.

This harness is pictured and described. Measurement and construction steps are presented as are illustrative case histories. "Speed of reduction, facilitation of infant care and handling, opportunity for attainment of normal developmental milestones, and the simplicity of construction of the Pavlik harness add to the feasibility of this method of treatment."

155. Farmer, Keitha; MacArthur, Barton A.; and Clay, Marie M.: "A Follow-Up Study of 15 Cases of Neonatal Meningoencephalitis Due to Coxsackie Virus B5," *Journal of Pediatrics*, 87:568-571, October, 1975.

Fifteen infants who had neonatal meningoencephalitis due to Coxsackie B5 virus in an epidemic occurring in a special care unit for neonates were followed-up at age six years. Physical, neurologic, and psychologic development were assessed as described. A summary of the findings is as follows: "1. Thirteen of 15 children who developed meningoencephalitis due to Coxsackie virus group B5 in the neonatal period had physical development, scores for intelligence and visual perception at the age of 6 years similar to those of 15 control children matched for sex, birth weight, gestational age, and socioeconomic status. 2. Two of three infants who were noted to be irritable or twitching in association with the meningoencephalitis in the neonatal period developed spasticity and their intelligence was below the mean for the group. 3. The three infants who also had myocarditis had no sequelae at the age of 6 years."

156. Farmer, Thomas W., ed.: *Pediatric Neurology*. Second Edition. Hagerstown, Maryland: Harper & Row, 1975. 558 pp.

"The organization of the book combines an etiologic and anatomic approach to neurologic disorders in children." Chapter 1 contains an outline of the neurologic examination of pediatric patients. "Chapters 2 through 11 describe the major intracranial disorders according to etiologic categories," including separate chapters dealing with convulsive disorders, mental retardation, developmental and degenerative diseases of the brain, nutritional disorders, intracranial infections, head injury, and cerebrovascular diseases. Chapters 12 through 14 are concerned with "diseases of different etiologies involving the spinal cord, spinal roots, nerves, and muscles." Reference lists follow each chapter, and there is a detailed subject index.

157. Fencl, Montserrat deM., and Tulchinsky, Dan: "Total Cortisol in Amniotic Fluid and Fetal Lung Maturation," *New England Journal of Medicine*, 292:133-136, January 16, 1975.

Concentrations of total cortisol were determined by radioimmunoassay as described in 48 samples of amniotic fluid obtained at various stages of gestation. Correlations were made with the lecithin/sphingomyelin ratio. Findings regarding this correlation and the total cortisol values seen throughout normal pregnancy are reported. "No respiratory-distress syndrome of the newborn occurred when total amniotic-fluid cortisol was >60 ng per milliliter (16 patients). Total amniotic-fluid cortisol may reflect initiation of fetal lung maturation, and may help identify pregnancies with a gestation period of over 40 weeks."

158. Ferry, Peggy C.; Hall, Sylvia M.; and Hicks, Jeffrey L.: "'Dilapidated' Speech: Developmental Verbal Dyspraxia," *Developmental Medicine and Child Neurology*, 17:749-756, December, 1975.

Developmental verbal dyspraxia is defined, and a study is presented in which 60 patients, both children and adults, with developmental verbal dyspraxia were clinically and neurologically reviewed. Neurological findings, the speech

characteristics of these patients, and associated psychiatric problems are described. "The condition is more common in males and characteristically presents with delayed or imperfect speech in association with a normal or surprisingly high receptive language level. Speech is absent or poorly intelligible and becomes worse with increasingly complex phonetic combinations. Patients may show signs of associated oral dyspraxia." The literature is discussed regarding the historical aspects of developmental verbal dyspraxia, the etiology, differential diagnosis, and treatment. "If intelligible speech has not developed by the age of six years, it is unlikely to develop. Total communication therapy started at the earliest possible age is the treatment of choice. The etiology of developmental verbal dyspraxia is unknown."

159. Feuer, Henry: "Early Management of Pediatric Head Injury: Physiologic Aspects," *Pediatric Clinics of North America*, 22:425-431, May, 1975.

The physiologic changes that may occur in the head after injury, such as cerebral edema and intracranial hypertension, are considered as are the early management of such conditions.

160. Fine, Peter J., ed.: *Deafness in Infancy and Early Childhood*. New York: Medcom, 1974. 232 pp.

This volume begins with an interview of its editor and a discussion of deaf children by Taras B. Denis, a teacher of deaf children for over 20 years. The remainder of the book contains articles by contributors, and is presented in five parts. The medical viewpoint of deafness is the subject of Part I, with psychological aspects, the education of deaf children, sign language, and hearing children of deaf parents being the general areas of consideration in Parts II, III, IV, and V, respectively. The articles are indexed.

161. Finnström, Orvar; Gothefors, Leif; and Zetterlund, Bo: "Studies on Maturity in Newborn Infants. VII. Foetal Haemoglobin," *Acta Paediatrica Scandinavica*, 64:404-408, May, 1975.

Previous studies in this series have examined the estimation of neonatal maturity by assessment of external characteristics, neurological examination, X-ray of epiphyseal centers, and motor conduction velocity. In this present study these methods are compared with the measurement of fetal hemoglobin. Cord blood was obtained from 125 neonates of various, listed gestational ages and was analyzed for the ratio of fetal hemoglobin to total hemoglobin, with methods explained. "The quotient, percentage of foetal haemoglobin divided by birth weight correlates well with gestational age. Thus the percentage of foetal haemoglobin in cord blood can be used as a method for estimating maturity in newborn infants. Foetal haemoglobin has been compared with other methods for maturity assessments and seems to give the same precision in estimating gestational age as the best of these, which is the scoring of external characteristics. However, the latter method is considerably less time-consuming and more suitable for routine use." The method used and the results are discussed. The literature is reviewed.

162. Finnström, Orvar; Karlsson, Börje; and Zetterlund, Bo.: "Studies on Maturity in Newborn Infants. VIII. Alpha-Foetoprotein and Albumin," *Acta Paediatrica Scandinavica*, 64:409-412, May, 1975.

In this study alpha-fetoprotein and albumin measurements were compared to other methods of estimating neonatal maturity. Cord blood was obtained from 125 neonates of various, listed gestational ages and was analyzed for the amounts of a-fetoprotein and albumin. "The quotient a-foetoprotein/birth weight was recorded as well. All the three measurements correlate fairly well with the gestational age of newborn infants. Measuring a-foetoprotein is not of the same value, however, in estimating gestational age as is the simple scoring of external characteristics." The literature is reviewed.

163. Fisch, Robert O.; Bilek, Mary K.; Miller, Lynn D.; and Engel, Rolf R.: "Physical and Mental-Status at 4 Years of Age of Survivors of the Respiratory Distress Syndrome," *Journal of Pediatrics*, 86:497-503, April, 1975.

Using data from the Collaborative Study, 58 survivors of the respiratory distress syndrome (RDS), evaluated at age four years, were compared with 290 matched controls, 35,198 unmatched controls, and normal siblings. The RDS children and all of the controls were divided into three groups on the basis of birth weight. Testing methods are described, and results are presented regarding physical growth, neurologic and psychologic evaluation, socioeconomic status, siblings, and the incidence of hypothyroidism. Findings indicated "that for each group the neuromotor performance was adversely affected by either low birth weight or low socioeconomic standing. Except for infants with birth weights above 2.5 kg, the RDS survivors performed as well as the two control groups. Comparisons with siblings failed to reveal a decrement in the RDS survivors. Hypothyroidism was more frequent among the RDS survivors than among the control subjects in the highest category of birth weight."

164. Fitzhardinge, P.M.: "Early Growth and Development in Low-Birthweight Infants Following Treatment in the Intensive Care Nursery," *Pediatrics*, 56:162-172, August, 1975.

Growth and development were followed for 12 months in 67 appropriate-for-date infants who were born before 33 weeks gestation and who were referred from their hospital of birth to a neonatal intensive care unit. The neonatal care of these infants is described. None of the newborns received hypercaloric alimentation. Follow-up assessment procedures and use of control groups is explained. Findings are reported regarding the neonatal course of the 67 infants, their growth, and their health, neurological, and intellectual sequelae. "Gross central nervous system defects occurred in 22.5% of the boys but in none of the girls. More than one half of the abnormalities were hydrocephaly. The mean post-conceptional developmental quotient was 110 for the girls and 108 for the boys." Findings are discussed and included the observation that "the commonest type of neurological defect in this sample, i.e., hydrocephaly and severe microcephaly, are not typical of the defects previously attributed to prematurity, i.e., spastic diplegia. The possibility must be considered that these defects are due to events occurring during intensive care in the neonatal period rather than primarily to premature birth. The frequently reported but poorly understood predilection for neurological defects in the male survivors was again demonstrated.

Although a slightly higher proportion of males had severe neonatal asphyxia, the incidence between sexes of RDS, need for mechanical ventilation, seizures, or metabolic disturbances did not differ." On page 160 of this issue Dr. George Cassady points out "certain flaws in this report" in a commentary.

165. Fitzhardinge, Pamela M.; Eisen, Abraham; Lejtenyi, Christine; Metrakos, Katherine; and Ramsay, Maria: "Sequelae of Early Steroid Administration to the Newborn Infant," *Pediatrics*, 53:877-883, June, 1974.

After the literature is reviewed, a study is described in which 12 surviving infants, who had received hydrocortisone intravenously during the first 24 hours of life as therapy for respiratory distress syndrome, were followed for at least one year. These 12 babies were paired with 12 infants who had received a placebo (controls). The two groups of children were compared on several described measures of growth and development. With the steroid therapy "there was no demonstrable effect on growth, incidence of infection, or immune competence. There was a trend towards an increased incidence of neurological and electroencephalographic abnormalities. Intelligence was normal in the study group although scoring in gross motor development was lower than in the control group."

166. Fluge, Gjermund: "Neurological Findings at Follow-Up in Neonatal Hypoglycemia," *Acta Paediatrica Scandinavica*, 64:629-634, July, 1975.

Thirty-seven children having had neonatal hypoglycemia were followed by examination as described at a mean age of three and one half years. These children had been classified as neonates into three groups: Group A had asymptomatic hypoglycemia (7), Group B had symptomatic, transient hypoglycemia (9), and Group C had secondary hypoglycemia (21). Of the seven children in Group A, five were normal, one had minimal brain dysfunction, and one showed abnormal EEG. Of the nine children in Group B, one was normal, six had neonatal convulsions, one was blind due to optic nerve atrophy, one had infantile spasms at age nine months, and four had cerebral palsy. In Group C there was one case of cerebral palsy after severe birth asphyxia and no other severe abnormal findings in the 21 children. Additional data are presented on the five cerebral palsy cases and many other findings are presented and discussed. "It is reasonable to assume that neonatal hypoglycaemia is an important prognostic factor. The deleterious effect on the CNS seems to be related to the duration and severity of the hypoglycaemia."

167. Ford, Lana Jean: "Teaching Dressing Skills to a Severely Retarded Child," *American Journal of Occupational Therapy*, 29:87-92, February, 1975.

Operant conditioning techniques were used in teaching independent dressing skills to a severely retarded child. After a discussion of the basic principles involved, this child's case history is presented, and the method, procedure, and results of this training program are described.

168. Forrest, Jill M., and Menser, Margaret A.: "Recent Implications of Intrauterine and Postnatal Rubella," *Australian Paediatric Journal*, 11:65-75, June, 1975.

Discussed in this review article are postnatal or "natural" rubella infection and intrauterine rubella. The long-term clinical manifestations of the latter are stressed, including deafness, ocular defects, structural cardio-vascular system defects, central nervous system defects, and immunologic aspects. The prevention of congenital rubella is also considered.

169. Fox, William W.; Berman, Lawrence S.; Downes, John J., Jr.; and Peckham, George J.: "The Therapeutic Application of End-Expiratory Pressure in the Meconium Aspiration Syndrome," *Pediatrics*, 56:214-217, August, 1975.

Fourteen infants with meconium aspiration syndrome (MAS), who were treated with end-expiratory pressure (EEP), were studied to evaluate the effectiveness of this treatment in relieving hypoxemia in MAS. Methods are described. Of the 14 infants, ten survived. "These infants demonstrated a direct, mean Po_2 response of 12 torr/cm H_2O EEP. A maximum Po_2 response was observed in an EEP range of 4 to 7 cm H_2O. EEP was equally effective whether patients were breathing spontaneously or were being mechanically ventilated. EEP is useful in the treatment of hypoxemia in the infants with meconium aspiration syndrome."

170. Frankenburg, William K., and Camp, Bonnie W.: *Pediatric Screening Tests*. Springfield, Illinois: C.C. Thomas, 1975. 549 pp.

"The present book was designed to bring together under one cover as much as possible of what is known about screening procedures for the pediatric population." The book is divided into four parts. Part I contains two chapters dealing with the principles of screening. Parts II, III, and IV are concerned with screening for specific physical problems, screening for specific sensory deficits, and screening for psychopathology, respectively. Individual screening tests and procedures are reviewed in these latter three parts. Appendix A is a list of contributors and reviewers. Appendix B is an index of tests reviewed.

171. Frankenburg, William K.; Dick, Nathan P.; and Carland, James: "Development of Preschool-Aged Children of Different Social and Ethnic Groups: Implications For Developmental Screening," *Journal of Pediatrics*, 87:125-132, July, 1975.

The Denver Developmental Screening Test (DDST) was administered to two samples of children, ages two weeks to 6.4 years. The first sample was a cross-sectional sample of 1,180 Denver children, representing a cross section of Denver's ethnic and parental occupational groups. The second sample contained 1,055 children whose fathers were classified as being unskilled laborers. This unskilled group contained approximately equal numbers of Anglo, Black, and Spanish surname children. Two comparisons of test score results were made. When Anglo children from the cross-sectional sample were compared with Anglo children from the unskilled sample, there were significant differences found on 39 of the 105 items. "Below 20 months of age, children of the unskilled sample were more advanced, whereas after 20 months of age, the children of the cross-sectional sample were advanced in all test sectors except for items in the personal-social sector."

When the unskilled Anglo, Black, and Spanish surname children were compared, few differences on test results were found. Findings are discussed, and implications are presented.

172. Frantz, Ivan D., III; Adler, Saul M.; Trach, Bradley T.; Wyszogrodski, Issie; Fletcher, Barry D.; Taeusch, H. William, Jr.; and Avery, Mary Ellen: "The Effect of Amniotic Fluid Removal on Pulmonary Maturation in Sheep," *Pediatrics*, 56:474-476, September, 1975.

Several recent studies are noted that have suggested that premature rupture of the amniotic membranes (PROM) has "a maturational effect on the immature lung and protects against the development of RDS." This hypothesis was tested in a study in which amniotic fluid was removed and oligohydramnios was produced in seven pregnant ewes. Five of the ewes had twin pregnancies, and care was taken to minimize fluid loss from one fetus in each of these five (controls). Methods and results are presented. No acceleration in pulmonary maturation was found.

173. Freeman, John M.: "The Shortsighted Treatment of Myelomeningocele: A Long-Term Case Report," *Pediatrics*, 53:311-313, March, 1974.

The case of an eight-year-old boy with myelomeningocele is reported to illustrate the disastrous results of partial treatment of such children. "If we give vigorous treatment to all newborn infants with myelomeningocele, we dramatically increase the quantity of survivors, and we probably increase the quality of their survival, but at tremendous financial and social expense to all. Even with optimal care most of the severe cases will not be truely competitive in our society. But, in choosing not to treat this child, without assuring his death, and without preventing the additional deficits resulting from nontreatment, we have incurred the worst possible outcome." "We must as a society work to determine what will be the best outcome for an individual case, and then be able to assure that whatever this optimal outcome be - that it be realized."

174. Freeman, Roger K.: "The Use of the Oxytocin Challenge Test for Antepartum Clinical Evaluation of Uteroplacental Respiratory Function," *American Journal of Obstetrics and Gynecology*, 121:481-489, February 15, 1975.

In this article the results are presented for usage of the oxytocin challenge test (OCT) as an antepartum monitoring procedure over a four year period at Los Angeles County-University of Southern California Medical Center Women's Hospital. Aspects of the OCT reported on include the equipment used, the method of testing, the interpretation of test results, and the clinical use of the OCT. Nine conclusions based on the findings are listed.

175. Freeman, Roger K., and James, Jean: "Clinical Experience with the Oxytocin Challenge Test. II. An Ominous Atypical Pattern," *Obstetrics and Gynecology*, 46: 255-259, September, 1975.

"An unusual fetal heart rate response to induced uterine contractions during the antepartum period" is described and discussed as it occurred in three patients with severe chronic placental insufficiency. Perinatal death resulted in all three cases with asphyxia being the apparent cause. These three cases are reported in detail. "The OCT tracings of these patients have similarities and could be characterized by a pattern that resembles variable deceleration with early onset and loss of baseline irregularity."

176. Friedman, Ronald J.: "The Young Child Who Does Not Talk," *Clinical Pediatrics*, 14:403-406, April, 1975.

The normal rate of speech development is reviewed, and a number of factors that may contribute to delayed or absent speech in the preschool child are discussed. These include mental retardation, psychoses or other emotional disturbances, aphasia, elective mutism, and other causes.

177. Fujikura, Toshio, and Froehlich, Luz A.: "Mental and Motor Development in Monozygotic Co-Twins with Dissimilar Birth Weights," *Pediatrics*, 53:884-889, June, 1974.

The mental and motor development of 125 monozygotic twin sets having had unequal birth weights was studied. These were cases from the Collaborative Study on Cerebral Palsy and Other Sensory and Neurologic Diseases. Much data on these children are presented. "There was no significant differences between co-twins in the Bayley Mental and Motor Scores at 8 months nor the Stanford-Binet IQ at 4 years. A reportedly higher IQ for the heavier of monozygotic twins was not confirmed in this study, even among pairs with large birth-weight differences." These findings are discussed and compared to previous reports.

178. Fujikura, Toshio, and Klionsky, Bernard: "The Significance of Meconium Staining," *American Journal of Obstetrics and Gynecology*, 121:45-50, January 1, 1975.

A study on the significance of meconium staining was conducted based on 42,900 live-born infants in the Collaborative Study. In this group, 10.3% had meconium staining of the placenta and/or fetal body present at birth. There were 788 neonatal deaths with 18.1% of these infants having meconium staining. The neonatal mortality rate was 3.3% in the stained group and 1.7% in the nonstained infants. Data in tables show relationships found between meconium staining and birth weight, fetal and maternal complications, and the incidence of hyaline membrane disease. Findings are discussed, and hypotheses are presented. "As a hypothesis, the observed increase of deaths in stained neonates may be related to the stresses of cumulative or chronic hypoxia which may occur after the initial passage of meconium if delivery is prolonged."

179. Fulton, Robert T., and Lloyd, Lyle L., eds.: *Auditory Assessment of the Difficult-To-Test.* Baltimore: Williams & Wilkins, 1975. 297 pp.

The contributors to the eight chapters comprising this volume have presented articles on the following topics: pure-tone audiometry, speech audiometry, Békésy audiometry, the differential diagnosis of auditory impairments, conditioning and audiologic assessment, acoustic impedance measurement, evoked response audiometry, and autonomic correlates of audition. "Each chapter outlines its own underlying principles and reveals short-comings. Each chapter also offers suggestions of procedural improvement and examines prospects for the future. Together they attempt to provide a unified approach to the duality of stimulus and response control. Although the book continues to emphasize audiologic assessment with the retarded, the principles are applicable to other populations manifesting difficult-to-test response behavior."

180. Gal, E., and Gal, Isabel: *Human Congenital Malformations: The Design of a Computer-Aided Study.* Boston: Butterworths, 1975. 194 pp.

In this book are described the collection of data and the processing of the data, using computer technology, for a study of etiological factors in neural tube malformations. The worries and doubts of the authors concerning the use of the computer in such a study and their great appreciation of the computer in medical research by the conclusion of the study are documented. The book is divided into two parts. In Part I the collection of the data, the construction of the questionnaire used, and the checking of the contents of their work are described by the authors. In Part II the survey conducted is explained, as are usage of the questionnaire, computation methods, data analysis, and the examples of the results. Forms used are included in Appendices.

181. Gal, Isabel: "The Effect of Palliative Surgery on the Survival of Central Nervous System Malformations," *Journal of Perinatal Medicine*, 3:123-128, 1975.

This effect was studied with a retrospective review of 70 cases admitted with central nervous system malformations between 1940 and 1965 to Queen Mary's Hospital for Children, Carshalton, Surrey. These 70 cases included "44 cases of hydrocephalus alone, 21 cases of spinal defect with hydrocephalus and five cases of spinal defect alone." The cases were also subdivided into those who did not receive any treatment for hydrocephalus and those who did receive certain palliative therapy. Additional data on the cases are presented. "The study suggests that the survival of patients suffering from hydrocephalus either alone or in combination with a mild degree of spinal defect is affected by the provision of nursing care. Palliative surgical therapy to relieve the symptoms of hydrocephalus does not alter the life-span significantly, but prevents the development of secondary complications considerably. If this observation could be substantiated on a larger scale then the above palliative therapy could be exercised even by those workers who believe in the selection of cases for surgical treatment of neural-tube malformations."

182. Gardner, Gena M., and Murray, M. Patricia: "A Method of Measuring the Duration of Foot-Floor Contact During Walking," *Physical Therapy*, 55:751-756, July, 1975.

Presented is a new method of determining the durations of foot-floor contact during walking. "The method uses a screen walkway and conducting paper on the soles of the shoes as parts of an electrical current." The method and materials used are described as are various clinical applications of the monitoring procedure. Advantages are noted.

183. Garoff, Leena, and Seppälä, Markku: "Prediction of Fetal Outcome in Threatened Abortion by Maternal Serum Placental Lactogen and Alpha Fetoprotein," *American Journal of Obstetrics and Gynecology*, 121:257-261, January 15, 1975.

Human placental lactogen (HPL) and alpha fetoprotein (AFP) levels were determined in 129 serum samples from 112 women having vaginal bleeding during the first or second trimester of pregnancy. Of these 112 women, 69 aborted. Low HPL levels were found in 36 of the patients, and all of these aborted. High AFP levels were found in five women, and four of these aborted with the fifth case being a twin pregnancy in which one fetus died. "HPL and AFP levels

provide complementary information as to the fetal outcome in threatened abortion. This was indicated by a normal HPL level in all of the five cases with raised maternal AFP, and by a normal AFP level in 35 of the 36 women with low maternal HPL." Findings are discussed.

184. Gaziano, Emanuel P.; Hill, David L.; and Freeman, Donald W.: "The Oxytocin Challenge Test in the Management of High-Risk Pregnancies," *American Journal of Obstetrics and Gynecology*, 121:947-950, April 1, 1975.

The use of the oxygen challenge test (OCT) for the antepartum assessment of fetal status in high-risk pregnancies is explained, and the experience of the authors with this test is described. The OCT was administered satisfactorily as explained a total of 81 times to 72 high-risk pregnant women. Other clinical information obtained in these cases is also presented. Of these 81 tests, eight in seven patients were read as positive, 72 were negative, and one was suspicious. "In 64 patients with negative tests, no fetal deaths or neonatal asphyxial depressions were observed. One patient developed intrapartum fetal distress with late decelerations eight days after a negative test and was delivered by cesarean section. The positive test appears to correlate meaningfully with other clinical parameters reflecting intrauterine compromise."

185. Geber, William F., and Schramm, Lee C.: "Congenital Malformations of the Central Nervous System Produced by Narcotic Analgesics in the Hamster," *American Journal of Obstetrics and Gynecology*, 123:705-713, December, 1975.

The literature is reviewed. Single or multiple injections of a number of narcotic and related drugs were administered to pregnant hamsters as described during the critical period of central nervous system organogenesis (day eight of gestation, or days eight, nine, and ten, respectively). Narcotic antagonists were also administered in some experiments to determine if the teratogenity of the narcotics would be blocked. The animals were left undisturbed until day 12 of gestation when they were killed for study. All drugs used are listed, and methods are explained. Findings are presented regarding maternal behavioral observations following drug injection, maternal death, fetal death, fetal congenital malformations, the results of multiple versus single maternal injections, and the effect of narcotic antagonist drug use. Findings were compared to those from a control group of fetuses. "The number of abnormal fetuses from females injected with diacetylmorphine (heroin), thebaine, phenazocine, pentazocine, propoxyphene, and methadone increased as the maternal dose of the compounds was increased. By contrast, morphine, hydromorphone, and meperidine produced an increase in the number (per cent) of fetal anomalies only up to a certain maternal dose level. Further increases in maternal dose levels did not produce additional fetal anomalies. Comparative studies of single and multiple maternal doses indicated that diacetylmorphine (heroin) and methadone produced a four- to sixfold increase in fetal anomalies with repetitive doses whereas the percentage of malformed fetuses remained the same with hydromorphone (Dilaudid). The narcotic antagonists nalorphine, naloxone, levallorphan, and cyclazocine blocked the teratogenic effects of both single and multiple doses of the narcotics." Further comment is made on the findings.

186. Gebhardt, David O.E., and Beintema, Anneke: "A Comparison Between the Lecithin/Sphingomyelin Ratio of Gluck and Other Phospholipid Values of Amniotic Fluid," *American Journal of Obstetrics and Gynecology*, 122:734-736, July 15, 1975.

Findings were compared when amniotic fluid samples were analyzed for the lecithin/sphingomyelin ratio (L/S), the total lecithin content, the acetone-insoluable lecithin content, and the total lecithin/total phospholipids ratio. A significant correlation was found between the L/S ratio and the other phospholipid values. However, "when the L/S ratio of amniotic fluid was greater than 2.0 there was no respiratory distress, even if the other phospholipid values indicated that the fetal lungs were still immature."

187. Gennser, Gerhard; Maršál, Karel; and Brantmark, Bo: "Maternal Smoking and Fetal Breathing Movements," *American Journal of Obstetrics and Gynecology*, 123:861-867, December 15, 1975.

An experiment was conducted on 12 pregnant women who smoked an average of seven to 20 cigarettes daily. Six of the women were tested using a standard cigarette and chewing gum which contained 2 or 4 mg. of nicotine while the other patients were tested using a standard cigarette and a nontobacco cigarette. Data were obtained "on the concentration of nicotine and the percentage of carboxyhemoglobin (COHb) in maternal blood, on the amount and pattern of the fetal breathing movements and on the maternal heart rate, breathing rate, and blood glucose level." All methods are described. Findings indicated that "a significant increase of apnea and periodic breathing movements in the fetus followed the smoking of a standard cigarette; a similar but nonsignificant change occurred in a dose-related way after the 4 mg. and the 2 mg. chewing gum." Findings are discussed and the literature is reviewed. "The suppression of the fetal breathing movements in utero poses the question whether iterated maternal smoking might influence the prenatal assessment of fetal maturity using determination of pulmonary surfactants in the amniotic fluid."

188. Gerbie, Albert B., and Shkolnik, Arnold A.: "Ultrasound Prior to Amniocentesis for Genetic Counseling," *Obstetrics and Gynecology*, 46:716-719, December, 1975.

Methods used at Children's Memorial Hospital, Chicago are described, and the results of using ultrasonic B-scan placentography and fetal cephalometry prior to performing transabdominal amniocentesis are presented and discussed.

189. Gershanik, Juan J.; Brooks, G. Gary; and Little, Joseph A.: "Fetal Blood Lead Values in a Rural Area," *Journal of Pediatrics*, 84:112-113, January, 1974.

Cord blood samples were obtained from a group of neonates delivered at a general-care hospital, and lead levels were determined. The samples were categorized as to whether the mother's place of residence was urban or rural. "The cord blood lead values of babies from urban maternal residences were significantly higher than those from rural environments." The over-all cord blood lead level was found to be considerably lower than in other reviewed studies. Findings are discussed.

190. Giacoia, George P., and Gorodisher, Rafael: "Pharmacologic Principles in Neonatal Drug Therapy," *Clinics in Perinatology*, 2:125-138, March, 1975.

The principles of pharmacology and pharmacokinetics, defined as being "the kinetics of drug absorption, distribution, metabolism, and excretion," are discussed in relation to their application to the newborn infant. Also briefly considered are the effects of such conditions as prematurity and intrauterine malnutrition on drug disposition in the neonate.

191. Gibson, Noah F., IV; Ball, Marshall M.; Kelsey, Doris S.; and Morrison, Lemuel: "Anterior Fontanelle Herniation," *Pediatrics*, 56:466-469, September, 1975.

Presented and discussed is a case report of a two-week-old infant "with anterior fontanelle brain herniation, most probably acquired secondary to meningitis." "Follow-up at age 6 months revealed a markedly hypotonic infant with no head control. He failed to follow objects, to grasp objects, and to roll over."

192. Gladstone, Gwendolyn R.; Hordof, Allan; and Gersony, Welton M.: "Propranolol Administration During Pregnancy: Effects on the Fetus," *Journal of Pediatrics*, 86:962-964, June, 1975.

The literature is reviewed, and a case report is presented of an infant who was born to a mother who received continuous propranolol during pregnancy for essential hypertension. "Perinatal problems included: a small placenta, intrauterine growth retardation, fetal depression at birth, and postnatal hypoglycemia and bradycardia. These responses appeared to be the direct result of the maternal use of propranolol. Hence, infants born to mothers on continuous therapy with this agent should be considered at risk for developing these complications."

193. Glass, Leonard; Lala, Rasila V.; Jaiswal, Vishnu; and Nigam, Sarvesh K.: "Effect of Thermal Environment and Caloric Intake on Head Growth of Low Birthweight Infants During Late Neonatal Period," *Archives of Disease in Childhood*, 50:571-573, July, 1975.

In this study 42 matched low birthweight infants were placed after the first week of life in one of four combinations of thermal environment and caloric intake. The infants were weighed daily, and head circumference was measured as described. "Exposure to a subthermoneutral temperature (abdominal skin temperature of 35° C), together with a relatively low caloric intake (120 cal/kg per day), was associated with significant retardation of head growth over a 2-week study period."

194. Gluck, Louis, ed.: *Modern Perinatal Medicine*. Chicago: Yearbook Medical Publishers, 1974. 466 pp.

This book is based on a conference sponsored by the Departments of Pediatrics and Reproductive Medicine of the University of California at San Diego and the Johnson & Johnson Institute for Pediatric Service. The book is divided into four parts. Part I contains seven chapters dealing with pregnancy regulation.

"Prenatal Evaluation of the Fetus" is the title of Part II, and eight chapters are concerned with various aspects. The eight chapters of Part III consist of discussions on special problems in reproduction, and in the nine chapters of Part IV various developmental problems in the newborn are considered, including the "neurologic evaluation of the small neonate," "results of fetal and neonatal intensive care," and "adverse perinatal effects of early amniotomy during labor." There are reference lists after each chapter and a subject index.

195. Goldberg, Karen: "The High-Risk Infant," *Physical Therapy*, 55:1092-1096, October, 1975.

Discussed in this article are some of the prenatal, perinatal, and neonatal risk factors commonly seen in the infant. Stress is placed on those factors that "may result in an adverse neurological outcome." Also considered is the role of the physical therapist in the care of the high-risk infant.

196. Goldenberg, Robert L., and Nelson, Kathleen: "Iatrogenic Respiratory Distress Syndrome," *American Journal of Obstetrics and Gynecology*, 123:617-620, November 15, 1975.

One hundred consecutive cases of respiratory distress syndrome (RDS) were reviewed as described. Findings indicated "that untimely or unwarranted physician intervention in the pregnancy was responsible for 15 per cent of cases and possibly responsible for another 18 per cent." These findings and possible means of preventing "iatrogenic" RDS are discussed.

197. Goodlin, Robert C.; Haesslein, Hanns C.; Crocker, Karen; and Carlson, Robert G.: "Fetal Cardiac Interval Recorder," *Obstetrics and Gynecology*, 46:69-73, July, 1975.

Such a recorder is described and pictured. It "is capable of continuously measuring intervals between two events of the fetal cardiac cycle, as well as functioning as a routine intrapartum monitor." Results of its usage are presented and discussed.

198. Gordon, H.R., and Deukmedjian, A.G.: "Suprapubic vs. Periumbilical Amniocentesis," *American Journal of Obstetrics and Gynecology*, 122:287-290, June 1, 1975.

These two methods of amniocentesis were compared in 308 carefully evaluated amniocenteses performed in 192 patients. There were fewer failures, fewer blood-tinged taps, and fewer grossly bloody taps when the suprapubic technique was utilized. There were 38 cases of premature rupture of the membranes, which was found to be about the same as the spontaneous rate in the literature. There was no difference between the two methods used in the incidence of premature rupture. In these 38 cases there was no development of the respiratory distress syndrome, maternal infection, or neonatal infection. There were 24 cases of meconium-stained taps. Of these 24 patients, five underwent emergency cesarean section for fetal distress, and six of the 24 infants had five minute Apgar scores of six or less. Conclusions are presented.

199. Goren, Carolyn C.; Sarty, Merrill; and Wu, Paul Y.K.: "Visual Following and Pattern Discrimination of Face Like Stimuli by Newborn Infants," *Pediatrics*, 56: 544-549, October, 1975.

Presented is a study in which 40 normal newborns, mean age nine minutes, were found to turn "their heads and eyes significantly more to follow a face-like stimulus than either of two equally complex and equally bright stimuli consisting of the same facial features in different arrangements. All three of the patterned stimuli were followed significantly more than a blank stimulus of equal brightness." The subjects, stimuli, apparatus, and procedure are explained, the stimuli are shown, and photographs of the testing are included. "The results may be interpreted as being consistent with an unlearned perceptual organization present at birth in human infants. Moreover, these results suggest that an evolved predisposition to respond selectively to faces may be present at birth."

200. Gornall, Peter; Hitchcock, Edward; and Kirkland, I.S.: "Stereotaxic Neurosurgery in the Management of Cerebral Palsy," *Developmental Medicine and Child Neurology*, 17:279-286, June, 1975.

The use of stereotaxic procedures in cerebral palsy treatment is historically reviewed briefly. The cases of ten cerebral palsied children in whom either thalamotomy or dentatotomy was performed are presented to emphasize "that stereotaxic surgery is one aspect of a multidisciplinary approach to cerebral palsy, to be planned in conjunction with physiotherapy and orthopaedic management in selected cases." At the time of their first operation these ten children ranged in age from two and one half to 11 years. The children, the operations performed, the results, and further management of these cases are described. The selection of children for this surgery is then discussed, and it is suggested that selected cases have the stereotaxic procedure "performed early in order to gain the greatest benefit."

201. Gouge, Anda Low, and Ekvall, Shirley Walberg: "Diets of Handicapped Children: Physical, Psychological, and Socioeconomic Correlation," *American Journal of Mental Deficiency*, 80:149-157, September, 1975.

At the University Affiliated Cincinnati Center for Developmental Disorders the diets of 119 patients, having a mean age of less than five years, were studied to determine relationships between nutritional deficiencies and the selected factors such as hemoglobin, height, weight, birthweight, head circumference, intellectual functioning, and adaptive behavior. Diets were assessed by means of a described food summary score. "Results showed primary nutritional and feeding problems to be: low ascorbic acid and iron intakes, lack of daily source of fluoride, protein intake of borderline biological quality, and mechanical and postnatal feeding difficulties." Correlations found between these problems and the selected physical, psychological, and socioeconomic factors are reported and discussed.

202. Graham-Pole, J.; Ferguson, A.; Gibson, A.A.M.; and Stephenson, J.B.P.: "Familial Dysequilibrium-Diplegia with T-lymphocyte Deficiency," *Archives of Disease in Childhood*, 50:927-932, December, 1975.

Previous reports of cases displaying this clinical combination of defective thymus-dependent immunity and cerebral palsy are reviewed. The case reports of a sister and brother with this same combination are then presented. They were the first and third children born to unrelated parents who had a total of four children. The other two children are normal. Neurological findings and results of immunological investigation in the two afflicted children are reported. "The cerebral palsy comprised nonprogressive dysequilibrium and mild spastic diplegia without limb ataxia. This genetic entity of presumed autosomal recessive inheritance is clearly distinguished from ataxia-telangiectasia. Immunological abnormalities should be sought in other familial or unexplained cerebral palsy syndromes."

203. Greene, John W., Jr.: "Diabetes Mellitus in Pregnancy," *Obstetrics and Gynecology*, 46:724-728, December, 1975.

In this review article are discussed the diagnoses of diabetes in pregnancy, the management of diabetes in pregnancy, and the timing of delivery in such cases. "In summary, diabetes is a disease that complicates pregnancy and carries hazards for both the mother and the fetus. It requires careful obstetric and pediatric care to produce optimum results. Our knowledge has increased greatly, and with the use of modern laboratory and physical tests, fetal salvage has been improved. We have learned much about this disease in recent years."

204. Gresham, Edwin L.: "Birth Trauma," *Pediatric Clinics of North America*, 22:317-328, May, 1975.

Cephalhematoma, skull fractures, spinal cord injury, and intraabdominal trauma are each considered as examples of birth trauma. Predisposing factors, clinical features, and methods of management are discussed.

205. Guha-Ray, Dilip K.: "Obstetric Problems in Association with Anencephaly," *Obstetrics and Gynecology*, 46:569-572, November, 1975.

The cause and severity of obstetric problems in 60 cases of anencephalic birth involving 58 mothers were studied. Much data on these 60 cases are presented including the different types of presentation, the incidence of hydramnios (48.3%), the mode of delivery, the obstetric problems seen in these cases, the time of diagnosis, the duration of gestation, and the recurrence rate of anencephalic infants among these mothers. The extreme need for early diagnosis of anencephaly and the real problem, that of prevention, are discussed.

206. Guibaud, S.; Bonnet, M.; Thoulon, J.M.; and Dumont, M.: "Alpha 1-Antitrypsin in Amniotic Fluid," *Obstetrics and Gynecology*, 45:34-38, January, 1975.

A total of 317 amniotic fluid samples were obtained from patients having normal and complicated pregnancies at between ten to 43 weeks of gestation. Amniotic

fluid a_1-antitrypsin values were determined with methods explained. Values were found to decrease with advancing pregnancy in normal patients "while values increased as pregnancy advanced in cases in which there was severe Rh-alloimmunization and hydraminos." Findings are discussed.

207. Guillozet, Noel: "The Risks of Paracervical Anesthesia: Intoxication and Neurological Injury of the Newborn," *Pediatrics*, 55:533-536, April, 1975.

The literature is reviewed, and a case report is presented "to describe the intoxication of a newborn by mepivacaine anesthesia and his survival and neurological abnormalities at 4 11/12 years." Other research in the area is discussed, and "clinical signs reported in infants with apparent mepivacaine toxicity" are listed in a chart.

208. Gunn, Scout Lee: "Play as Occupation: Implications for the Handicapped," *American Journal of Occupational Therapy*, 29:222-225, April, 1975.

The need for play as an occupation in the lives of handicapped people is stressed in this article. Play is defined and discussed regarding its relationship to the treatment process. Various theories of play are mentioned with the optimum arousal theory of play as developed by Michael Ellis emphasized as being the "most significant in the rehabilitation process of the handicapped individual." It is concluded that "perhaps more than most people, the handicapped individual needs to occupy much of his time learning to play because play elicits responses to the unknown, offers an opportunity to learn confidence, and to be creative in facing novel and difficult situations - situations that are personified in the life of the handicapped individual."

209. Gunsolus, Pamela; Welsh, Carol; and Houser, Carolyn: "Equilibrium Reactions in the Feet of Children with Spastic Cerebral Palsy and of Normal Children," *Developmental Medicine and Child Neurology*, 17:580-591, October, 1975.

The literature is reviewed, and a study is reported in which the balancing reactions in the feet of normally developing children were compared with those in the feet of cerebral palsied children with spasticity. There were two defined groups of normal children, each containing ten children: the beginning walkers and the more advanced walkers. There were three defined groups of cerebral palsied children, each containing ten children: the independent walkers, the independent standers, and the assisted standers. The procedure used to assess and compare the reactions in the feet of these groups of children in response to lateral and posterior displacement of the body when standing is explained as is the method of data analysis. Findings are presented and discussed regarding the comparison of the more advanced walkers with the beginning walkers, the more advanced walkers with the spastic children, the spastic children with the beginning walkers, and the differences among the cerebral palsied groups. Among the findings was that "children with spastic cerebral palsy differed significantly from the normal Advanced Walkers in each of the reactions observed. When compared with the normal Beginning Walkers they demonstrated less ankle dorsiflexion and medial-arch reactions but appeared similar in other factors." Implications of the findings are considered.

210. Hagberg, B.: "Pre-, Peri- and Postnatal Prevention of Major Neuropediatric Handicaps," *Neuropädiatrie*, 6:331-338, November, 1975.

Studies by the author and others dealing with the prevention of neuropediatric handicaps, particularly cerebral palsy and mental retardation, are reviewed. Findings from the author's study in Sweden of an unselected series of 560 cases of cerebral palsy, born between 1954 and 1970 are analyzed. Based upon the study of this series of patients "it has been possible to conclude that postnatal preventive measures are largely completed, and that perinatal brain damage syndromes have significantly decreased, while prenatal mechanisms now dominate and still constitute mainly unsolved problems. The study has convincingly revealed that modern neonatal intensive care does pay and has given favorable gains not only in surviving but in undamaged babies." Data are presented in tables and charts.

211. Hagberg, B.; Hagberg, G.; and Olow, I.: "The Changing Panorama of Cerebral Palsy in Sweden 1954-1970. I. Analysis of the General Changes," *Acta Paediatrica Scandinavica*, 64:187-192, 1975.

In Part I of this study the incidence of cerebral palsy in Sweden from 1954 to 1970 was investigated in an unselected series of 560 cases of cerebral palsy born during this time span. Four periods were analyzed: 1954-58, 1959-62, 1963-66, and 1967-70. Terms are defined and a classification of cerebral palsy syndromes is explained. Results are presented regarding the total incidence of cerebral palsy and the distribution according to syndrome, according to birth weight, according to cause, according to intellectual capacity, and according to geographical region. "The total incidence successively and significantly decreased from 2.2% in the first period to 1.3% in the last. This decrease was mainly related to (1) the syndromes of spastic and ataxic diplegia, (2) the low birth weight babies, and (3) the group with perinatal causes. The decrease was not related to any special intelligence quotient or geographical region." Findings are discussed.

212. Hagberg, B.; Hagberg, G.; and Olow, I.: "The Changing Panorama of Cerebral Palsy in Sweden 1954-1970. II. Analysis of the Various Syndromes," *Acta Paediatrica Scandinavica*, 64:193-200, March, 1975.

In Part II of this study the same 560 cases of cerebral palsy were investigated regarding etiologic and pathogenetic factors. Each main syndrome of cerebral palsy, as defined in the classification system presented in Part I, was analyzed separately. These were: the spastic syndrome (405 cases) including spastic hemiplegia (200), spastic tetraplegia (19), and spastic diplegia (186); the ataxic forms including ataxic diplegia (31) and congenital ataxia (44); and the dyskinetic syndromes (80 cases) including athetosis (20) and dystonic forms (60). Findings are reported for each of these groups regarding incidence, birth weight, cause, and I.Q. "Untraceable and prenatal factors were found to dominate within the group of spastic hemiplegia. Placental dysfunction in small-for-date babies and severe asphyxia were thought to be the two main pathogenetic factors among the patients with spastic tetraplegia. In spite of a significant decrease in the number of low birth weight children within the group of spastic diplegia, this syndrome was still very characteristic

for the child born immature. Ataxic diplegic forms were found to have greater pathogenetic similarities to spastic diplegia than to simple ataxia. In two-thirds of the children the latter syndrome was characterized by normal pregnancy, delivery and birth weight and an untraceable (genetic?) factor. Dyskinetic syndromes were mostly encountered after perinatal asphyxia."

213. Haigh, D., and Forsythe, W.I.: "The Treatment of Childhood Epilepsy with Sodium Valproate," *Developmental Medicine and Child Neurology*, 17:743-748, December, 1975.

The literature is reviewed, and a study is presented in which 32 children, ages seven months to 17 years nine months, with various types of epilepsy were treated with sodium valproate as explained. Of these 32 patients, 30 had been treated unsuccessfully with other anticonvulsants. Study methods including the recording of findings are described as are the results, including side effects and serum levels of sodium valproate. "Of nine patients with petit mal and four with petit mal and grand mal, 10 obtained complete control of their petit mal. Of 11 patients with grand mal, four showed a greater than 90 per cent reduction of fits. None of the eight patients with temporal lobe or myoclonic epilepsy was improved."

214. Hanson, James W., and Smith, David W.: "The Fetal Hydantoin Syndrome," *Journal of Pediatrics*, 87:285-290, August, 1975.

The case reports of five unrelated children born to epileptic mothers who took hydantoin anticonvulsants during pregnancy are presented. These children "were found to have a similar broad multi-system pattern of abnormalities, including craniofacial anomalies, nail and digital hypoplasic, prenatal-onset growth deficiency, and mental deficiency. The altered pattern of morphogenesis is distinct from other recognized disorders, including the trimethadione syndrome."

215. Hansson, O.; Kristensson, K.; Lycke, E.; Solymar, L.; and Sourander, P.: "Generalized Myopathy and Cerebral Malformations Possibly Related to an Enteroviral Infection," *Acta Paediatrica Scandinavica*, 64:881-885, November, 1975.

Such a case is presented of a male infant manifesting generalized muscular hypotonus at birth. The infant died at age six weeks. "Serological findings and epidemiological data suggest an association to a recently described enterovirus infection (enterovirus candidate 71) known to cause neurological disease in man. Autopsy revealed cerebral malformations and generalized myopathy compatible with a viral etiology of the disease."

216. Harding, M.P., and Nelham, R.L.: "Parallelogram Cycle Linkage," *Physiotherapy*, 61:192, June, 1975.

Described and pictured is a tricycle adapted for a child with cerebral palsy. A parallelogram linkage was designed that could be fitted to the tricycle to keep the pedals at a fixed angle to the ground. At publication the linkage was not yet available commercially, but this possibility was being explored.

217. Hardy, Richard E., and Cull, John G., eds.: *Educational and Psychosocial Aspects of Deafness*. Springfield, Illinois: C.C. Thomas, 1974. 197 pp.

There are three chapters in this volume that are particularly pertinent to this bibliography. They are: Chapter II - "Working with Parents of Young Deaf Children" by Paul Rotter, Chapter III - "The Early Detection of Hearing Loss" by John A. Grant, and Chapter X - "Preschool Education for Deaf Children" by Helen S. Lane.

218. Harper, Rita G.; Solish, George I.; Purow, Henry M.; Sang, Edward; and Panepinto, William C.: "The Effect of a Methadone Treatment Program Upon Pregnant Heroin Addicts and Their Newborn Infants," *Pediatrics*, 54:300-305, September, 1974.

Described is a Family and Maternal Care Program for pregnant heroin addicts, their spouses, and their newborn infants, which was initiated in 1971 at the State University of New York Downstate Medical Center. Information is presented on the program, the group studied, maternal aspects, and infant aspects including withdrawal, infant data, and infant hospitalization. Of the 51 live infants delivered during the first year of the program's operation, 17 had birth weights of less than 2,500 gm. In 84% of the 51 infants, the Apgar score was seven or higher. Three infants had congenital malformations. Of 48 infants able to be observed, 45 (94%) had withdrawal symptoms as described, but withdrawal was not found to be associated "with an increase in mortality or known prolonged morbidity. This low-dose methadone program coupled with intense psychosocial support appeared to alleviate many of the common problems associated with addiction in pregnancy, but failed to prevent withdrawal in the newborn."

219. Harrison, Robert; Campbell, Stuart; and Craft, Ian: "Risks of Fetomaternal Hemorrhage Resulting from Amniocentesis With and Without Ultrasound Placental Localization," *Obstetrics and Gynecology*, 46:389-391, October, 1975.

Three groups of obstetric patients undergoing amniocentesis were studied with regard to "a) whether more than one attempt was required to obtain amniotic fluid, b) the incidence of 'dry' or 'bloody' aspirations, and c) the incidence of fetomaternal transfusion." Group I contained patients upon whom amniocentesis was performed in midpregnancy without prior placental localization by ultrasound. Group II contained patients upon whom amniocentesis was performed in late pregnancy without prior placental localization. Group III contained patients upon whom amniocentesis was performed in mid- and late-pregnancy under ultrasound control. Among the findings was that "a lower incidence of complications was found in those on whom ultrasound examination had been performed."

220. Harrod, James R.; L'Heureux, Philippe; Wangensteen, O. Douglas; and Hunt, Carl E.: "Long-Term Follow-Up of Severe Respiratory Distress Syndrome Treated with IPPB," *Journal of Pediatrics*, 84:277-286, February, 1974.

A group of 22 children, ages one to five years, who as neonates had had severe respiratory distress syndrome treated with intermittent positive pressure breathing (IPPB), were evaluated as to their developmental and cardiopulmonary status. Methods of assessment are described. "Fifteen patients (68 per cent) were

developmentally 'indistinguishable from normal,' six (27 per cent) were 'suspect,' and only one patient had definite developmental impairment." The cardiorespiratory findings are presented and discussed in detail.

221. Hartz, Stuart C.; Heinonen, Olli P.; Shapiro, Samuel; Siskind, Victor; and Slone, Dennis: "Antenatal Exposure to Meprobamate and Chlordiazepoxide in Relation to Malformations, Mental Development, and Childhood Mortality," *New England Journal of Medicine*, 292:726-728, April 3, 1975.

Data from the Collaborative Perinatal Project were used to study this relation. "A total of 1870 children exposed in utero to meprobamate or chlordiazepoxide were compared with 48,412 children who were not. No significant differences were found either overall or in specific outcomes; rates were also similar when exposures occurred during the first trimester or at other times during pregnancy. Deaths (stillbirth to the fourth birthday) occurred in 2227 children (4.4 per cent), and there was no evidence that antenatal exposure to either drug increased the death rate. Finally, as judged by mental and motor scores at the age of eight months, and intelligence quotient scores at four years, there was no evidence that the drugs cause brain damage."

222. Haslam, Robert H.A.: "'Progressive Cerebral Palsy' or Spinal Cord Tumor? Two Cases of Mistaken Identity," *Developmental Medicine and Child Neurology*, 17:232-237, April, 1975.

Two case reports of children who were previously diagnosed as having cerebral palsy and subsequently were found to have intramedullary tumors of the cervical spinal cord are presented and discussed "to alert pediatricians to the atypical presentation and insidious progression of spinal cord tumors in children. Whether or not the child has cerebral palsy, any progressive deterioration of function in the extremities, complaints of back pain, loss of sphincter control, or sensory abnormality, warrants a thorough neurological examination and specific radiological procedures to exclude the possibility of a spinal cord tumor."

223. Hathaway, William E.; Mahasandana, Chularatana; and Makowski, Edgar L.: "Cord Blood Coagulation Studies in Infants of High-Risk Pregnant Women," *American Journal of Obstetrics and Gynecology*, 121:51-57, January 1, 1975.

Cord blood was obtained and studied in 106 infants of high-risk pregnancies "in an effort to understand the relationship of fetal hypercoagulability to the morbidity of infants born to mothers whose offspring are at high risk of serious disease and to determine the clinical value of cord blood coagulation studies." The mothers were classified into the following high-risk categories: preeclampsia, diabetes mellitus, third-trimester bleeders, Rh sensitization with erythroblastosis fetalis, maternal hypertension, premature labor, and fetal distress. Methods used and tests conducted on the cord blood are explained and include tests "for coagulability, evidence for disseminated intravascular coagulation (DIC), and hematocrit." Results are presented for each category of complication. "Certain abnormalities were seen in each group of patients." Seven observations made from this study are listed.

224. Hawkins, D.F., ed.: *Obstetric Therapeutics: Clinical Pharmacology and Therapeutics in Obstetric Practice.* London: Baillière Tindall, 1974. 594 pp.

"The present work provides in a unified form an account of the therapeutics of antenatal care, of the confinement and puerperium, of abnormal pregnancy and of obstetric emergencies. The book defines the field of obstetric therapeutics, dealing with the prevention and therapy of disorders arising primarily as abnormalities of pregnancy, not with the medical disorders which can complicate pregnancy." There are 15 contributors to the volume, reference lists are of considerable length, and there is an index.

225. Haworth, J.C.: "Neonatal Hypoglycemia: How Much Does It Damage the Brain?" *Pediatrics*, 54:3-4, July, 1974.

Since glucose is the major metabolic fuel for the brain, it is not surprising that hypoglycemia could cause signs of acute brain dysfunction - e.g. convulsions, unconsciousness and even death. Neurological sequelae due to cellular injury could be anticipated. In the newborn infant, hypoglycemia may theoretically be expected to result in permanent brain dysfunction. A significant cause for morbidity and mortality in newborn infants is hypoglycemia - especially in those of low birth weight and those who are small for gestational age. Later evidence of mental retardation and abnormal central nervous systems signs occur in half to a quarter of these situations. Infants with asymptomatic hypoglycemia are expected to have a much better prognosis. However, unanswered is whether asymptomatic hypoglycemia can cause brain damage. More fundamental work awaits this answer. "In animals rendered anoxic, plasma glucose increased but brain glucose showed a profound drop."

226. Haworth, J.C., and Dilling, Louise A.: "Effect of Abnormal Glucose Tolerance in Pregnancy on Infant Mortality Rate and Morbidity," *American Journal of Obstetrics and Gynecology*, 122:555-560, July 1, 1975.

During the last trimester of pregnancy, oral and intravenous glucose tolerance tests were conducted on 95 women who were not previously known to have diabetes but who were at risk for diabetes for listed reasons. None of the methods used to categorize the test results was of value in predicting the outcome of the pregnancy. The perinatal mortality and morbidity rates in the infants of these women were compared to those of a large group of unselected women delivering at the same center and to those of a group of insulin-treated diabetic women. These mortality and morbidity rates in the tested group did not differ from those found in the diabetic group. Also in the tested group the "causes of infant morbidity were not increased, with the exception of overweight babies, hypoglycemia, and hypocalcemia." On the basis of these and other findings "it was concluded that documentation of the degree of glucose intolerance in the mother is of little value in predicting fetal outcome but may indicate infants at risk for hypoglycemia and hypocalcemia."

227. Hayden, Bernard L.; Simpson, Joe Leigh; Ewing, Douglass E.; and Otterson, Warren N.: "Can the Oxytocin Challenge Test Serve as the Primary Method for Managing High-Risk Pregnancies?" *Obstetrics and Gynecology*, 46:251-254, September, 1975.

In order to answer this question a study was conducted in which 225 oxytocin challenge tests (OCT) were administered to 105 high-risk obstetric patients. Of these 225 tests, eight were positive, 21 were suspicious, and 196 were negative, as defined. Other parameters of fetal status were also assayed, but "a positive OCT was the only fetal indication for delivery, provided the L/S ratio was 2:1 or greater." All eight of the fetuses with positive tests were delivered by cesarean section, and there were no intrauterine deaths in the 105 patients. "We conclude that the OCT can serve as the primary method for assessing pregnancies characterized by placental insufficiency. Fetuses with a positive OCT and an L/S ratio of 2:1 should be delivered by cesarean section; those with a suspicious test should be restudied within 72 hours; and those with a negative test should be restudied in 1 week. The latter patients can be allowed to enter labor spontaneously, albeit with continuous monitoring."

228. Hayden, Patricia W.; Johnson, Curtis C.; and Gupta, Vishnu: "A Pulsed Transilluminator for the Infant Cranium," *Clinical Pediatrics*, 14:627-629+, July, 1975.

Such a transilluminator is described and pictured. Results are presented of its usage with 222 normal and premature newborns and 59 older infants and children, who were referred for transillumination because of a questioned intracranial lesion. "The instrument described in this paper can be used in ambient room light and provides quantitative data not dependent on the examiner's dark adaptation or color perception. The entire cranium must be carefully scanned to detect significant patterns of transillumination." The instrument can be used to detect cysts and in cases of hydrocephalies. "The primary usefulness for this instrument would be as a time-saving screening device in a nursery or infant's clinic. In addition, consultants when asked to assess children for neurologic problems and possible intracranial lesions can obtain quantitative transillumination data both initially and serially."

229. Hayden, Patricia W.; Shurtleff, David B.; and Broy, Arline B.: "Custody of the Myelodysplastic Child: Implications for Selection for Early Treatment," *Pediatrics*, 53:253-256, February, 1974.

The distinction between the terms, custody and guardianship, is made. The custody status of 173 myelodysplastic children seen at a university hospital is reported. Thirty or 17% of the 173 patients "have been placed outside their natural families for temporary or long-term care." The placement of these children, the many stresses such children can create, and the alternatives available to the child and his family are considered. "Long-term follow-up study of this group of children may indicate that transfer of custody can be a positive therapeutic alternative for the child and his family."

230. Hein, Herman A.; Christopher, M. Christina; and Ferguson, Norma N.: "Rural Perinatology," *Pediatrics*, 55:769-773, June, 1975.

The current perinatal practices in Iowa are reviewed, and a program, organized in 1973, is described in which a perinatal care team visited 72 community

hospitals to assess practices and develop educational programs to correct deficient care. There was no charge to the hospitals. A summary of checklists used to obtain data on the visitation is included. After each visit a written report was sent to the visited hospital along with guidelines that had been developed and suggested solutions to the problems found at the hospital. Follow-up was then conducted at least 90 days after the visitation. "A review of the data indicates an improvement in the care of the perinatal patient. The authors feel the methodology employed can be utilized in other rural areas to improve basic perinatal care."

231. Hendrick, E. Bruce; Hoffman, Harold J.; and Humphreys, Robin P.: "Trauma of the Central Nervous System in Children," *Pediatric Clinics of North America*, 22:415-424, May, 1975.

Presented is an outline for the early management of children with head injuries. Aspects considered include the obtaining of a careful history, the assessment and treatment of other multiple injuries, surgical intervention, diagnostic procedures, and treatment.

232. Herbst, Meryle; Gordon, Suana; and Di Tomasso, John: "Axillary Measuring Crutch," *Physical Therapy*, 55:1107, October, 1975.

A method for measuring axillary crutches is described.

233. Ho, Chen-Kung; Kaufman, Robert L.; and McAlister, William H.: "Congenital Malformations," *American Journal of Diseases of Children*, 129:714-716, June, 1975.

A detailed case history of an infant born with multiple congenital malformations "is presented because of the distinctive combination of anomalies and the history of intrauterine exposure to multiple medications." These drugs are described in a chart. The female infant "had cleft palate, micrognathia, Wormian bones, congenital heart disease, dislocated hips, absent tibiae, bowed fibulae, preaxial polydactyly of the feet, and abnormal dermal patterns at birth." The child was 16 months of age at the time of the last reported examination.

234. Ho, Sze Kuen, and Wu, Paul Y.K.: "Perinatal Factors and Neonatal Morbidity in Twin Pregnancy," *American Journal of Obstetrics and Gynecology*, 122:979-987, August 15, 1975.

Twin pregnancy was studied over a two year period in an institution where fetal monitoring and neonatal intensive care were available. A total of 177 twin pregnancies were studied with 76.8 percent of the mothers being Mexican-American. Findings are reported regarding demographic and obstetric data, intrapartum fetal monitoring, the fetal — placental weight ratio, Apgar score, the relationship between birth weight, and gestational age, deaths, and morbidity. "The incidence of breech, cesarean section, and assisted deliveries was higher in twins than singleton deliveries, and the incidence was higher in twin 2 than in twin 1. Mortality rates, fetal and neonatal, were lower than those previously reported. Neonatal findings and complications include low Apgar scores, small-for-dates infants, hyaline membrane disease, hypoglycemia, hypocalcemia,

hyperbilirubinemia, and congenital malformation." These findings are discussed and a summary of the results is presented. "The increased incidence of deaths and morbidity in twin pregnancy, as compared to singleton pregnancy, was attributed to prematurity, and to complications and diseases pertaining to prematurity, rather than to twining per se."

235. Hobbins, John C., and Mahoney, Maurice J.: "In Utero Diagnosis of Hemoglobinopathies," *New England Journal of Medicine*, 290:1065-1067, May 9, 1974.

Described in this article is "a technic to aspirate fetal blood from a vessel on the placental chorionic plate under direct visualization. The method requires neither general anesthesia nor laparotomy and is performed in an outpatient facility with a local skin anesthetic." The method was tested in eight women about to undergo therapeutic abortion. Fetal blood was successfully obtained in all eight patients. Results are described, and the technic is further discussed. It is emphasized that this is a preliminary study. "The next step will be to postpone abortion in patients undergoing endoscopy to see whether labor ensues or if there is unacceptable fetal blood loss."

236. Hogue, Carol J.: "Low Birth Weight Subsequent to Induced Abortion," *American Journal of Obstetrics and Gynecology*, 123:675-681, December 1, 1975.

Interviews were conducted with 948 Yugoslavian women of whom 222 had had their first pregnancies terminated by induced abortion and 726 in their first pregnancies had delivered (controls). The characteristics of the women are described, and methods of study are explained. These women were then studied regarding subsequent pregnancies "to determine the relative effects of first-pregnancy abortion or delivery on incidences of adverse outcomes." Findings are presented with regard to the frequency and the outcome of subsequent pregnancies, and the incidence of low birth weight by pregnancy order, by birth order, and by abortion procedure. "No significant differences were found between first-pregnancy aborters and deliverers for subsequent conception rates, spontaneous abortions, or low-birth-weight rates. The data suggest that while induced abortion of the first pregnancy did not protect against the greater risk of low birth weight for a primiparous birth, neither did it increase that risk." The factor of recall bias is also studied.

237. Holden, Kenton R., and Freeman, John M.: "Neonatal Seizures and Their Treatment," *Clinics in Perinatology*, 2:3-13, March, 1975.

Reviewed are the manifestations of neonatal seizures, diagnosis, etiology, and initial evaluation and treatment. "Causes of neonatal seizures" are listed. Specific therapy in certain conditions and specific pharmacologic agents are then considered. It is felt that "in general, more damage may be done by the side effects of the anticonvulsants used for the treatment of infrequent 'twitches' than is done by the seizures themselves." Although data is lacking to support the belief, it is thought that pharmacologic agents are generally overused in treating neonatal convulsions. More data on individual drugs regarding rates of absorption, metabolism, excretion, etc. are needed.

237.1. Holt, Kenneth S., ed.: *Movement and Child Development*, (Clinics in Developmental Medicine, Number 55). Spastics International Medical Publications. London: William Heinemann Medical Books, Ltd.; Philadelphia: J.B. Lippincott, Co., 1975.

Valuable personal possessions are being able to move about at will and having control of body movements. Children make use of movements in many ways as they develop. Great efforts are expended in helping those who are restricted. Chapters in this volume cover a broad scope, viz. concern with neurophysiology of movement, linking scientific theories with everyday practices, and describing individual techniques. The papers presented at the 21st Anniversary at the Wolfson Centre, London, in addition to three others by Ann Harrison constitute the content of this publication.

238. Hon, E.H.; Zannini, D.; and Quilligan, E.J.: "The Neonatal Value of Fetal Monitoring," *American Journal of Obstetrics and Gynecology*, 122:508-519, June 15, 1975.

In this article a review is conducted of data that support "the concept that labor and delivery may be an asphyxiating process for the fetus." Also described is a program of obtaining fetal and neonatal heart rate recordings in a perinatal intensive care unit. The clinical value of such a program in the management of high-risk patients is considered. Such monitoring is felt to be of benefit in the prevention of fetal death, and it also allows the pediatrician to anticipate respiratory distress in neonates. Further discussion is conducted after the text of the article by Drs. Robert C. Goodlin, Richard N. Bolton, and Quilligan.

239. Horger, Edgar O., III; Miller, M. Clinton, III; and Conner, Edward D.: "Relation of Large Birthweight to Maternal Diabetes Mellitus," *Obstetrics and Gynecology*, 45:150-154, February, 1975.

The literature is reviewed. In the study presented, 517 cases in which an infant weighing 9 lb. or more was delivered were reviewed in order "to characterize the patient most likely to deliver a macrosomic infant, to enumerate the complications most commonly associated with fetal macrosomia, to establish some relation between the degree of fetal macrosomia and the presence of maternal diabetes mellitus, and to predict which obstetric patients delivering macrosomic infants will prove to have diabetes." Five of the women were known to have diabetes mellitus before pregnancy, and postpartum intravenous glucose tolerance tests (GTT) were performed in 369. The maternal characteristics and the infant characteristics in these 517 cases are described. Among the maternal findings was that the women had significantly more major complications of pregnancy, including toxemia, prolonged labor, and puerperal morbidity, than were found in the general obstetric population of the hospital. The incidence of midforceps and cesarean section deliveries was also significantly increased in these patients as was the perinatal mortality rate. In 13.9% of these infants the Apgar score at one minute was six or less. Of the 369 women having a postpartum GTT, 38 were found to have diabetic glucose tolerance curves. Much other data are presented, and results are discussed.

240. Horiguchi, Terusada, and Bauer, Charles: "Ethnic Differences in Neonatal Jaundice: Comparison of Japanese and Caucasian Newborn Infants," *American Journal of Obstetrics and Gynecology*, 121:71-74, January 1, 1975.

Compared as to the incidence of neonatal jaundice were 75 infants of Japanese origin and 50 infants of Caucasian origin (controls). Both groups were born in the same hospital between January, 1970 and August, 1972. "The Japanese group was found to have significantly higher neonatal jaundice of unknown etiology (57.39 per cent) than the Caucasian group (16 per cent). Twenty-three per cent of the Japanese group and none of the Caucasian group developed hyperbilirubinemia exceeding 15 mg. per 100 ml. of serum." A case report of a Japanese infant is presented, and findings are discussed.

241. Horn, Kenneth A.; Zimmerman, Robert A.; Knostman, James D.; and Meyer, W. Terrence: "Neurological Sequelae of Group B Streptococcal Neonatal Infection," *Pediatrics*, 53:501-504, April, 1974.

A group of 18 survivors from an original series of 44 neonates with group B streptococcal infection were examined to determine possible neurological residua. The original study group had been divided into three described "categories based on age of onset, clinical presentations, and specific group B culture findings." Data on the 18 examined survivors are presented in a chart. Of the 18, four were found to have some neurological sequelae. There was a combined mortality and morbidity rate of 50% in the original group of 44 newborns.

242. Horváth, I.; Tóth, P.; and Méhes, K.: "The Predictive Value of Glucose Utilization Rate in Neonatal Hypoglycaemia of Small-For-Gestational-Age Infants," *Acta Paediatrica Academiae Scientiarum Hungaricae*, 16:2:143-147, 1975.

The glucose disappearance rate (K value) was determined as described in 50 small-for-date newborns. Of these 50 infants, 11 were found to have a K value greater than 2.0 while in 39 infants the K value was less than 2.0. Among the 11 cases there were five infants who developed asymptomatic hypoglycemia. In the 39 cases no hypoglycemia was noted except for one false negative. "The results suggest that early determination of the glucose disappearance rate is useful in predicting the probability of hypoglycaemia."

243. Howe, J.W.; Crombie, A.L.; and Harcourt, R.B.: "Electrophysiological Examination of the Visual System in Paediatric Practice," *Developmental Medicine and Child Neurology*, 17:719-725, December, 1975.

The electroretinogram and the visual evoked response are each considered as methods of electrophysiological assessment of visual function. Emphasis is placed on the value of these methods in pediatric neurology for use with children having suspected or diagnosed neurological disease. Seven case histories are included as illustrations.

244. Hughes, Arthur: "Teratogenesis and the Movement of Ions," *Developmental Medicine and Child Neurology*, 17:111-114, February, 1975.

Research in this area is reviewed. "There is evidence that in early embryos, mechanisms exist for the control of the movement of monovalent ions; that sodium is extruded during gastrulation and neurulation, and that in two- to three-day-old chick embryos with head abnormalities, ratios of sodium to potassium may be abnormally high. It is suggested that the origin of neural tube defects in early development may be associated with failure of control of ionic movements."

245. Hughes, Robert interviewed by Stephen Jackson: "Special Education in Scotland," *Special Education: Future Trends*, 2:8-11, June, 1975.

Robert Hughes is the Under Secretary of State for Scotland and is interviewed regarding recent progress in special education in Scotland. The article is organized in question-answer form. Emphasis is placed on the training of teachers for the handicapped.

246. Ianniruberto, A.; Destro, F.; Capozzi, A.; Zisa, F.; Cubesi, G.; and Parisi, S.: "Determination of Fetal Maturity and of Development of the Fetal Lungs by Means of Combined Methods," *Journal of Perinatal Medicine*, 3:105-114, 1975.

A total of 369 patients having normal or complicated pregnancies were studied to compare the validity of the most important methods of estimating gestational age with the value of methods used to estimate fetal pulmonary maturity. Methods studied included the measurement of the fetal biparietal diameter by ultrasound, analysis of amniotic fluid using described cytological and biochemical methods, and assessment of the L/S ratio, in amniotic fluid by both Gluck's method and Clement's foam test. Detailed findings are presented in graphs and tables and are discussed. "It is concluded that if termination of pregnancy is indicated, the physician should rely more on the assessment of lung maturity than on indicators of gestational age."

247. "Increased Lead Absorption and Lead Poisoning in Young Children — A Statement by the Center of Disease Control," *Journal of Pediatrics*, 87:824-830, November, 1975.

This article is a statement made by the Center for Disease Control in which revised recommendations are made "regarding the screening, diagnosis, treatment and follow-up of children for increased lead absorption and lead poisoning."

248. Issel, E.P.; Prenzlau, P.; Bayer, H.; Lüder, R.; Schulte, R.; Wohlfahrth, G.; and Weight, M.; Technical Assistance: Renate Acker: "The Measurement of Fetal Growth During Pregnancy by Ultra-Sound (B-Scan)," *Journal of Perinatal Medicine*, 3:269-275, 1975.

Ultrasonographic B-scans were used to measure fetal growth. Based on 5400 measurements of the biparietal diameter of the skull, 1500 measurements of the sagittal thorax diameter, and 1300 measurements of the length of the trunk, five percentile curves were established and are presented. These are gestational age vs. biparietal diameter, biparietal diameter vs. weeks of gestation, length of gestation vs. sagittal thoracic diameter, length of gestation vs. length of trunk, and sagittal thoracic diameter vs. length of trunk. "The advantages of ultrasonography for monitoring of the pregnancy are self-evident: repeated examinations are possible, the examination takes little time, and the method is safe. The determination of the biparietal diameter for estimation of fetal development alone is insufficient because trunk measurements may indicate developmental disturbances (dystrophy or hypertrophy) before the growth of the biparietal diameter of the skull is affected."

249. Iyengar, Leela, and Rajalakshmi, K.: "Effect of Folic Acid Supplement on Birth Weights of Infants," *American Journal of Obstetrics and Gynecology*, 122:332-336, June 1, 1975.

In order to investigate the effect of folic acid supplementation during pregnancy on birth weight and placental composition and function, a study was conducted in which alternate pregnant women received either supplemental iron or iron with folic acid during the last 12 to 16 weeks of pregnancy. Findings are presented regarding the birth weight of infants, the effect of maternal

height and parity on birth weight, the relationship between maternal hemoglobin levels and birth weights, maternal weight gain, urinary estrogens, and composition of the placenta. "The effect of the folic acid supplements was more marked on the first born children. Incidence of small-for-dates births was half in the iron and folate-supplemented group as compared with the iron-supplemented group. The heights of mothers did not make any difference on the effect of folate supplement. The improvement in the birth weights seem to have been brought about by increase in placental size, cell number, and protein content in the folate supplement group." It is felt that folate and iron supplementation for pregnant women "may bring about an improvement in the incidence of pregnancy anemia and also reduce the infant morbidity and mortality rate due to the high incidence of low-birth weight babies."

250. Jackson, Robert W.; Anderson, Garland D.; and Held, Bere I.: "Amniotic Fluid Phospholipids and Fetal Lung Maturity. I. Assessment of Various Methods of Determining Lecithin and Sphingomyelin," *American Journal of Obstetrics and Gynecology*, 121:1095-1099, April 15, 1975.

In order "to determine the one method of amniotic fluid phospholipid analysis which would prognosticate most accurately fetal lung maturity," the authors compared the method they use at the University of Texas to determine the lecithin/sphingomyelin ratio with four other methods that have been described in the literature. These methods "were compared for reproducibility, accuracy, and technical simplicity." All of the methods studied are explained. A total of 150 amniotic fluid samples were examined, and the outcome in all 150 pregnancies was able to be observed. The basic test of the authors was found to be 95% accurate in predicting the occurrence of the respiratory distress syndrome. The findings with the other methods are also presented, and results are listed in a summary.

251. Jalling, Birgitta: "Plasma Concentrations of Phenobarbital in the Treatment of Seizures in Newborns," *Acta Paediatrica Scandinavica*, 64:514-524, May, 1975.

In order to investigate the absorption and disappearance of phenobarbital from plasma in the newborn and also the anticonvulsant effect, 18 described infants needing anticonvulsive treatment in the newborn period were studied. Phenobarbital was administered either as tablets or as a solution for injection, and other treatment procedures are explained. Findings are presented regarding the absorption of the first dose, the plasma concentrations after daily doses, the distribution and elimination of phenobarbital from plasma, the phenobarbital levels found in cerebrospinal fluid, and the relation found between plasma concentration of phenobarbital and the anticonvulsive effect. "In 12 of the infants the clinical course allowed attempts to evaluate the anticonvulsive effect of phenobarbital. In 4 cases the convulsions continued. In those 8 infants where phenobarbital seemed to be effective, the approximate range of phenobarbital concentration when convulsions ceased was 12-30 µg/ml." "The pathological conditions causing seizures probably influence the distribution, metabolism and excretion of the drug. For the often seriously ill infants with convulsions it is therefore difficult to construct rational maintenance dose schedules, and optimal dosage must be based on repeated determinations of the plasma concentration."

252. Jan, James E.; Robinson, Geoffrey C.; Scott, Eileen; and Kinnis, Claire: "Hypotonia in the Blind Child," *Developmental Medicine and Child Neurology*, 17:35-40, February, 1975.

A study is described in which 91 children with congenital blindness and ten children with acquired blindness comprised a final study population "to identify the occurrence, frequency and etiology of hypotonia in blind children whose nervous systems were otherwise intact, and to describe its relationship to age, sex, degree of vision, etiology of blindness, early motor development, coordination, mobility and orientation, and to the associated abnormalities observed on the physical examination of these children." Brain damaged and mentally retarded blind children had been excluded from the study group. Of the 91 congenitally blind children, 30 were found to be hypotonic, while none of the ten

children with acquired blindness had hypotonia. "Children who were examined at seven years of age or younger had hypotonia more frequently than the older children." The occurrence of hypotonia was found to be significantly related to a delay in early motor development. These and other findings are discussed.

253. John, Elizabeth: "Complications of Phototherapy in Neonatal Hyperbilirubinaemia," *Australian Paediatric Journal*, 11:53-55, March, 1975.

Complications were studied in a group of 200 mature neonates who were treated with phototherapy for unexplained jaundice. The procedures are described and included courses of 18 hours of continuous exposure to light followed by a six hour break. The number of courses given (2, 3, or 4) depended upon the bilirubin level. "The complications encountered were a rash, diarrhaea, lethargy, and the (Na^+-K^+) ATPase activity of the red cell membrane was found to be reduced after 18 hours of phototherapy." The literature is reviewed.

254. John Elizabeth: "Phototherapy in Neonatal Hyperbilirubinaemia," *Australian Paediatric Journal*, 11:49-52, March, 1975.

In vitro and in vivo studies were conducted as described to determine the efficiency in photo-oxidizing bilirubin of three types of lamps used in Australia for phototherapy. These three types were a special blue, a standard blue, and a white fluorescent. Irradiance between 420 and 460 nm was measured. "The narrow range special blue lamp, with spectral energy distribution between 420 and 490 nm, was found to be most effective. Phototherapy in the mature newborn infant with hyperbilirubinaemia significantly reduced the number of exchange transfusions required."

255. Johnson, John D.; Malachowski, Natalie C.; Grobstein, Rose; Welsh, Doris; Daily, William J.R.; and Sunshine, Philip: "Prognosis of Children Surviving with the Aid of Mechanical Ventilation in the Newborn Period," *Journal of Pediatrics*, 84-272-276, February, 1974.

A group of 55 children, who as neonates had been treated with mechanical ventilation for respiratory failure, were studied at a mean age of 5.7 years. Four categories of factors were evaluated at follow-up. These were cardiopulmonary function, neurologic function, intellectual status, and physical growth measurements. Methods of assessing each of these factors and findings regarding each are presented. Further information is given on the severely handicapped children. "Abnormalities of general neurologic function were detected in 10 of 54 (19 per cent) children....Moderate to severe handicaps consisting of spastic diplegia or hemiplegia were present in 6 (11 per cent)." "We have not been able to identify other factors during the neonatal course, e.g., severity of hypoxemia or acidemia prior to onset of assisted ventilation, occurrence of obstruction of the endotracheal tube or accidental extubation, or frequency and number of apneic episodes which would predict later occurrence of intellectual or neurologic handicaps in surviving children."

256. Johnson, Richard T.: "Hydrocephalus and Viral Infections," *Developmental Medicine and Child Neurology*, 17:807-816, December, 1975.

Experimental studies conducted by the author and other pertinent literature on virus-induced aqueductal stenosis, the obstruction of cerebrospinal-fluid pathways by viral inflammation or neoplasia, and hydrocephalus ex vacuo caused by chronic virus infections are reviewed. "In the study of virus-induced hydrocephalus in experimental animals, a surprising finding has been that while a number of viruses do not cause acute clinical disease, they do affect ependymal cells and this results later in non-inflammatory aqueductal stenosis. This finding supports the hypothesis that aqueductal stenosis results from injury to a normally developed structure and suggests that viral infections are a potential cause of this 'developmental' defect."

257. Jones, Bernice N.; Scott, S.C.C.; Binnie, C.D.; and Roberts, J.R.: "Clinical and Evoked Response Audiometry in Late Infancy," *Developmental Medicine and Child Neurology*, 17:726-731, December, 1975.

The literature is reviewed, and a study is presented in which 18 normal infants were repeatedly assessed between the ages of six and 24 months using evoked response audiometry, clinical tests of hearing, and developmental testing. All methods are described. Findings "demonstrated the feasibility of obtaining satisfactory evoked response audiograms in this age-group without sedation."

258. Jones, R.B.: "The Vojta Method of Treating Cerebral Palsy," *Physiotherapy*, 61: 112-113, April, 1975.

The author describes this treatment method as he sees it after attending a two-part course on the Vojta Method. It is concluded that "the Vojta method of treating patients with movement disorders is potentially useful but at the moment there are no objective data on which its true usefulness can be assessed. The clinical experience of those who have used the method, however, suggests that an evaluation would be fruitful."

259. Jones, Sandra L.: "Foot Angle Brace Board," *Physical Therapy*, 55:166, February, 1975.

Such a board, its construction, and its usefulness are described. Also a picture is included. "The purpose of the brace board is to maintain functional ankle inversion, eversion, dorsiflexion, plantar flexion, and tibial torsion of the knee. The brace board can be used for patients in bed, in a wheelchair, or standing on a tilt table, and it is adaptable to patients between one and fifteen years of age."

260. Jonsen, A.R.; Phibbs, R.H.; Tooley, W.H.; and Garland, M.J.: "Critical Issues in Newborn Intensive Care: A Conference Report and Policy Proposal," *Pediatrics*, 55:756-768, June, 1975.

In Part I of this article, the report of a conference held in California in May, 1974 to consider ethical problems raised by neonatal intensive care is

presented. Included are summaries of five illustrative selected cases, summaries of papers presented, and four questions that were raised for discussion. These questions are: "Is it ever right not to resuscitate an infant at birth? ...Is it ever right to withdraw life support from a clearly-diagnosed, poor-prognosis infant?...Is it ever right to intervene directly to kill the dying infant?...Is it ever right to displace poor-prognosis infant A in order to provide intensive care to better-prognosis infant B?" In Part II a 'moral policy for neonatal intensive care' that was written subsequent to the conference is presented. In Appendix A participants are listed, and in Appendix B the responses to the four questions are collated.

261. Kanthor, Harold; Pless, Barry; Satterwhite, Betty; and Myers, Gary: "Areas of Responsibility in the Health Care of Multiply Handicapped Children," *Pediatrics*, 54:779-785, December, 1974.

It is pointed out that for many children with chronic diseases, there is no specific person who assumes responsibility for specific areas of health care. Roles of primary physicians and specialists are not clearly defined. This is confusing to all parties and can result in gaps in the total care of the child and his family. In an attempt to clarify these roles a group of "44 mothers of children with spina bifida were interviewed to determine whether a primary physican, a specialist or another source had taken the responsibility for providing the following areas of health care: evaluation and treatment of the chronic disease, advice, future planning, genetic counseling, coordination, emotional support, education, acute illness care, and well-child care." Findings are presented for each of these nine areas, discussion is conducted, and implications are considered. "To provide complete and effective health care to children with chronic disabilities, parents and physicians must clearly understand who is to be responsible for both the specific health services as well as the overall direction of rehabilitative care. Although a primary physician, a specialty clinic or a 'coordinating pediatrician' might play this role effectively, it is clear that to achieve this goal, establishing areas of responsibility must become more precise and explicit and not left, as at present, in the realm of uncertainty."

262. Kapitulnik, J.; Horner-Mibashan, Ruth; Blondheim, S.H.; Kaufmann, N.A.; and Russell, Alex: "Increase in Bilirubin-Binding Affinity of Serum with Age of Infant," *Journal of Pediatrics*, 86:442-445, March, 1975.

Serum pools of cord blood, blood of nonjaundiced full-term infants, and blood from normal adults were obtained and changes seen in the bilirubin-binding affinity of serum during the first two years of life, as determined by Sephadex gel filtration, are described. This bilirubin-binding affinity of infant serum "began to increase during the first week of life and continued to increase gradually until the age of 5 months, when it reached that of adult serum. This increase might be due to a transition from a fetal to an adult type of serum albumin and/or to a decrease in the concentration in serum of the substances thought to compete with bilirubin for binding to albumin." The "lower bilirubin-binding affinity of neonatal serum probably contributes to the high susceptibility of jaundiced infants to bilirubin encephalopathy."

263. Kattwinkel, John; Nearman, Howard S.; Fanaroff, Avroy A.; Katona, Peter G.; and Klaus, Marshall H.: "Apnea of Prematurity," *Journal of Pediatrics* 86:588-592, April, 1975.

Possible causes of neonatal apnea are briefly considered. In order to investigate the possible therapeutic effects on apnea of prematurity of increased sensory stimulation and continuous positive airway pressure (CPAP), 18 preterm infants with idiopathic apnea were studied. These infants and their treatment are further described. Six of the 18 infants received cutaneous stimulation as explained and the other 12 infants were placed on nasal CPAP. Findings regarding apnea were compared to control periods and indicated that the frequency of apnea was reduced 35% during the period of tactile stimulation and 69% with CPAP.

Clinical implications of these findings are reported. "These findings constitute the basis for new therapeutic measures for treatment of idiopathic neonatal apnea."

264. Katz, Jacob F., and Stone, Robert: "Combination Wheelchair-Stretcher ('Blythemobile')," *Archives of Physical Medicine and Rehabilitation*, 56:499-500, November, 1975.

Such a device was developed at Blythedale Children's Hospital in Valhalla, New York to assist in the mobility of children with orthopedic and neuromuscular disabilities. The following requirements were met by this equipment: "(a) an appropriate length resting surface to accommodate full leg braces or long plaster of paris casts; (b) adaptability of supported sitting or total recumbency attitudes; (c) safety against tilting or upset; (d) opportunity for self propulsion or external assisted wheeling when that was indicated."

265. Keniston, Richard C.; Pernoll, M.L.; Buist, Neil R.M.; Lyon, Mary; and Swanson, J. Robert: "A Prospective Evaluation of the Lecithin/Sphingomyelin Ratio and the Rapid Surfactant Test in Relation to Fetal Pulmonary Maturity," *American Journal of Obstetrics and Gynecology*, 121:324-332, February 1, 1975.

Prospectively compared in relation to fetal lung maturity were the lecithin/sphingomyelin ratios obtained by both the planimetric (PL/S) and the densitometric (DL/S) methods and the rapid surfactant test (RST). A total of 578 samples of amniotic fluid were analyzed over a two and one half year period with methods described. Much data are presented in tables regarding the estimation of fetal age by the three methods, the prediction of the pulmonary status by the three methods, the correlations between the two L/S ratio methods and the RST, and on the infants in the study who developed RDS. The RST was found to be the most reliable method of testing for fetal lung maturity and immaturity. The RST is also easier to perform than the L/S ratio. "Therefore, this series indicates that the RST could be used as a primary method with the D L/S being useful as an additional indicator of fetal maturity when the RST was intermediate, or the sample contaminated with blood and/or meconium."

266. Klein, Pnina S.; Forbes, Gilbert B.; and Nader, Philip R.: "Effects of Starvation in Infancy (Pyloric Stenosis) on Subsequent Learning Disabilities," *Journal of Pediatrics*, 87:8-15, July, 1975.

In order to investigate whether "a defined period of starvation occurring within the first three months after birth have an effect on subsequent learning abilities and general adjustment," 50 children, ages five to 14 years, who had been treated for congenital hypertrophic pyloric stenosis in infancy, were assessed on a number of specific learning abilities and on general adjustment. Pyloric stenosis was felt to be a naturally occurring type of malnutrition having no relationship to socioeconomic conditions. Findings were compared to those from 44 siblings and 50 matched control children. Instruments and procedures are described. Results are presented regarding the effect of starvation on learning abilities, on general adjustment, on physical development, and on the effects of variations in time of starvation onset. "Learning ability was

negatively correlated with the degree of severity of the starvation. Starvation resulting in a reduction of more than 10% of the expected body weight in infancy was associated with poorer learning abilities, especially those involving short-term memory and attention."

267. Koczwara, Helen: "Use of a Vibrator to Facilitate Motor and Kinesthetic Behavior in Children," *Physical Therapy*, 55:510, May, 1975.

The use of therapeutic vibrators as motivators for motor and kinesthetic behavior in children is briefly discussed.

268. Korner, Anneliese F.; Kraemer, Helena C.; Haffner, M. Ellen; and Cosper, Lorna M.: "Effects of Waterbed Flotation on Premature Infants: A Pilot Study," *Pediatrics*, 56:361-367, September, 1975.

Previous research on vestibular-proprioceptive stimulation is reviewed. This pilot study, involving 21 premature infants having birthweights of from 1,050 to 1,920 gm. and gestations of 34 weeks or less, was conducted "to assess the clinical response of premature infants to compensatory vestibular-proprioceptive stimulation similar in kind to that prevailing in utero." Two types of waterbeds were developed for this purpose and are described. The infants were randomly assigned to experimental (10) and control (11) groups. The ten experimental infants were placed on oscillating waterbeds before day six of postnatal life, and all remained on the beds for seven days. Methods of collecting and analyzing data are explained. "Waterbed flotation was found to be a safe procedure; there were no significant effects on the infants' vital signs, weight, or frequency of emesis. Highly significant differences were found in the incidence of apnea between the two groups, with infants on the oscillating waterbed having significantly fewer apneic spells. Infants placed on the waterbed during the first four postnatal days benefited more than those placed later. A non-oscillating waterbed was found clinically useful for very small prematures with severe skin problems, for infants recovering from abdominal surgery, and for infants receiving parenteral nutrition." Possible explanations for the findings are considered.

269. Korobkin, Rowena: "The Relationship Between Head Circumference and the Development of Communicating Hydrocephalus in Infants Following Intraventricular Hemorrhage," *Pediatrics*, 56:74-77, July, 1975.

The records of six premature infants with ventricular hemorrhage and subsequent hydrocephalus were evaluated regarding head circumference measurements taken at intervals from birth throughout hospitalization. Findings are reported regarding the head circumference measurements, the ventriculograms performed on five infants, the patient outcome (5 died), and the postmortem examinations conducted on four of the five infants who died. "The sudden appearance of rapidly expanding head size, not associated with changing clinical status, occurred 9 to 20 days after the estimated time of hemorrhage in all of the infants. Air ventriculography within three days of abnormal acceleration of head circumference growth demonstrated moderately to severely dilated ventricles. The ventricles were probably enlarging slowing from the time of hemorrhage because there was no

associated clinical deterioration in the infants coincident with the rapid increase in head circumference. After intraventricular hemorrhage, enlarging head circumference appears to be an insensitive sign of hydrocephalus in premature infants."

270. Kramer, Lloyd I.: "Rapid, Accurate Electrocardiogram and Apnea Monitoring," *Journal of Pediatrics*, 87:107-109, July, 1975.

Described is a new monitor pad with an attached lead system which was designed to lessen the problems that occur with standard electrocardiogram leads such as skin irritation, interference with patient care, and slow application. Results over 1,350 patient days indicated "a striking absence of skin irritation, injury or maceration," and "optimum monitoring surveillance was maintained without hindering patient care, serial examinations, or procedures."

271. Kratochwil, Alfred: "The State of Ultrasound Diagnosis in Perinatal Medicine," *Journal of Perinatal Medicine*, 3:75-88, 1975.

The advantages of ultrasound diagnosis in perinatology are briefly noted, and include there being no detrimental side effects on either the fetus or mother, the possibility of repeated examination, and the quickness of the examination. The important areas of application of ultrasound diagnosis in perinatal medicine are then reviewed. They include fetal biometry, pelvimetry, placentography, and the application of echography in early pregnancy. There is a lengthy bibliography.

272. Kravik, Patricia J.: "Adopting a Retarded Child: One Family's Experience," *Children Today*, 4:5:17-21, September-October, 1975.

This experience is related by a mother of an adopted retarded child.

273. Kreuger, A.: "Exchange Transfusions with Concentrated ACD-Blood. II. Effects on Bilirubin, Total Protein, Chloride, Phosphate, Calcium, Magnesium and Potassium," *Acta Paediatrica Scandinavica*, 64:310-314, March, 1975. (Series: For I See #274.)

In this study the same ten exchange transfusions (ET) were studied with regard to the total amounts of bilirubin, total protein, chloride, and phosphate in plasma gained or lost with the transfusion, and also the sodium, potassium, calcium, and magnesium content of the whole blood administered to the nine infants. "The loss of bilirubin was closely correlated to the pre-exchange bilirubin concentration. On the average, there was a significant loss of plasma chloride of 3.21 mmol per kg bodyweight. There were no significant gains or losses of plasma protein or sodium, potassium, magnesium and calcium of whole blood during the ET. There was a calculated significant inflow of whole blood calcium from the extravascular space of 0.02 mmol per kg bodyweight together with a calculated significant increase of plasma phosphate of 0.06 mmol per kg bodyweight." Findings are discussed.

274. Kreuger, A., and Wranne, L.: "Exchange Transfusions with Concentrated ACD-Blood. I. Effects on the Infant's Red Cell Volume, Plasma Volume and Haemoglobin Mass," *Acta Paediatrica Scandinavica*, 64:305-309, March, 1975. (Series: For II See #273.)

Studied were the ten exchange transfusions given to nine infants because of either hyperbilirubinemia or hemolytic disease. The total amounts of plasma, hemoglobin and red cells in the administered concentrated ACD-blood and in the removed blood were determined and compared. "The gain or loss of haemoglobin was found to be closely correlated to the difference between the haemoglobin concentration of the given blood and that of the infant before the exchange transfusion. The standard ACD-blood used was hypo-osmolar (NIH sol.B) and its red cells overhydrated. During the exchange, the cells returned to normal and released water, about 10 ml per kg of the infant's bodyweight. Haematocrit readings therefore are unsuitable for the judgement of the ACD donor blood's oxygen transport capacity. As a rule, less plasma was given than removed. However, if the above-mentioned water, released from the red cells, was included in the 'given' volume, the latter became almost equal to the volume removed." Findings are discussed.

275. Krugman, Saul, and Gershon, Anne A., eds.: *Infections of the Fetus and the Newborn Infant*. New York: Alan R. Liss, 1975. 193 pp. (Progress in Clinical and Biological Research, Volume 3.)

This volume contains the proceedings of a symposium held in New York City in March, 1975 that was presented by New York University Medical Center and sponsored by the National Foundation-March of Dimes. A total of 13 papers are presented under the headings of viral infections, protozoal infections, and bacterial infections. A list of references follows each paper, and there is a subject index.

276. Kuo, Ken N.; Lloyd-Robert, G.C.; Orme, I.M.; and Soothill, J.F.: "Immunodeficiency and Infantile Bone and Joint Infection," *Archives of Disease in Childhood*, 50:51-56, January, 1975.

Findings are reported for the clinical and immunological study of three infants with bone and joint infections occurring before age one year, who were studied at the time of infection, and for 15 patients with this syndrome who were studied retrospectively. "Immunodeficiency is probably responsible for the subdued clinical signs of infection and for delayed diagnosis in some patients. It was also related to the extent of femoral head damage in infective arthritis of the hip and to the incidence of wound infection in late elective surgery." "This study confirms the view that the subdued clinical evidence of bone and joint infection is related to hypofunction of the antibody, complement, phagocyte pathway, and suggests that immunodeficiency beyond that of the normal neonate may often contribute."

277. Lamm, Steven H., and Rosen, John F.: "Lead Concentration in Milks Fed to Infants: 1972-1973," *Pediatrics*, 53:137-141, February, 1974.

In late 1972 and early 1973 the concentration of lead was measured in cans, cartons, and bottles of commercial milks fed to infants. Levels were compared to those reported in 1971 by the Connecticut State Department of Health "to approach or exceed the maximum daily permissible intake (300 μ g) for toddlers." A marked reduction in lead levels was found in this study which was seen to indicate changes had been made in processing or canning the milks. "Nevertheless, processed milks may still deliver up to 100 μ g of lead daily, whereas in comparison, fresh human or homogenized bovine milk contains no detectable lead....The presented data suggest that lead contamination is introduced at any one of several processing steps and that milk containers are not a significant source of lead contamination." "Furthermore, since the developing brain of the young infant is particularly susceptible to the toxic effects of lead, and since lead in milks fed to infants does not include the only environmental source of this heavy metal, it seems reasonable to review proposed standards of lead in infant milks which are six to ten times above the current level of contamination."

278. Largent, Patricia, and Waylett, Janet: "Follow-up Study on Upper Extremity Bracing of Children with Severe Athetosis," *American Journal of Occupational Therapy*, 29:341-347, July, 1975.

The bracing concepts and the bracing program of the Cerebral Palsy Day Center at the Rancho Los Amigos Hospital are discussed. A follow-up study is then described, the purpose of which was to reevaluate the children in this bracing program "in order to formulate criteria for appropriate patient selection in anticipated bracing programs, to identify the type of motion problems that could be successfully braced, to determine the bracing configurations most effective in aiding arm control, and to fulfill the objectives of self-feeding and participating in table-top activities." Results in each of these areas of the study are presented. It was concluded that "upper extremity bracing for athetoid children has limitations for complex activities such as self-feeding. With increased exposure to this type of upper extremity control problem, the authors have become aware of its complexity and the elusiveness of a solution." It is hoped that future developments in research may make functional arm control more available to the athetoid child. Several photographs are included.

279. Lasky, Robert E.; Lechtig, Aaron; Delgado, Hernan; Klein, Robert E.; Engle, Patricia; Yarbrough, Charles; and Martorell, Reynaldo: "Birth Weight and Psychomotor Performance in Rural Guatemala," *American Journal of Diseases of Children*, 129:566-570, May, 1975.

Described is a study in which the Brazelton Assessment Scale was administered within the first two weeks of life to 145 infants born in four Guatemalan villages and the Composite Infant Scale was administered to 352 such infants. Findings indicated an association existed between birth weight and psychomotor development in these infants. "These results imply that deficits in behavioral development are related to birth weight in developing nations, where the magnitude of the problem is probably greater than in industrialized countries where low-birth-weight infants are less common. Furthermore, although behavioral deficits are most evident in low-birth-weight infants (≤ 2.5 kg), deficits

associated with birth weight also exist with respect to infants generally considered to be full-sized at birth. Our results indicate that behavioral deficits may be associated with infants who are neither of low birth weight, nor obviously impaired." Also, "in addition to low birth weight, a number of factors such as maternal head circumference, parity, birth interval, disease and nutrition during pregnancy, third trimester weight, and lactation are associated with psychomotor performance in Guatemala. Because these factors are highly prevalent in the poor segments of the world's population, they may contribute to the inequity of opportunity that is part of the definition of poverty."

280. Lechtig, Aaron; Delgado, Hernan; Lasky, Robert E.; Klein, Robert E.; Engle, Patricia L.; Yarbrough, Charles; and Habicht, Jean-Pierre: "Maternal Nutrition and Fetal Growth in Developing Societies: Socioeconomic Factors," *American Journal of Diseases of Children*, 129:434-437, April, 1975.

Results of several studies are summarized, and an Institute of Nutrition of Central America and Panama (INCAP) study on the relationship between nutrition and mental development in four rural villages in Guatemala is reported. Findings indicate that "maternal height and caloric supplementation seem to have little effect on the incidence of low-birth-weight infants in mothers from high socioeconomic groups within rural ladino villages in Guatemala. On the other hand, in mothers from low socioeconomic groups, maternal height and food supplementation have a strong effect on the frequency of low-birth-weight infants. Maternal nutrition appears to be one of the intermediate steps in the causal chain between socioeconomic factors and fetal growth."

281. Lechtig, Aaron; Delgado, Hernan; Lasky, Robert; Yarbrough, Charles; Klein, Robert E.; Habicht, Jean-Pierre; and Béhar, Moisés: "Maternal Nutrition and Fetal Growth in Developing Countries," *American Journal of Diseases of Children*, 129: 553-556, May, 1975.

Data is reviewed on the influence of maternal nutrition on the proportion of low birth weight babies in developing countries. The conclusion from this review is "that an improvement in nutritional status during pregnancy leads to a substantial decrease in the incidence of low-birth-weight infants in preindustrialized societies. Simple caloric supplementation is an important positive factor. Improved fetal growth may, in turn, contribute to a reduction in the high infant mortality in these countries."

282. Lechtig, Aaron; Yarbrough, Charles; Delgado, Hernan; Martorell, Reynaldo; Klein, Robert E.; and Béhar, Moisés: "Effect of Moderate Maternal Malnutrition on the Placenta," *American Journal of Obstetrics and Gynecology*, 123:191-201, September 15, 1975.

The results of two studies conducted at the Institute of Nutrition of Central America and Panama (INCAP) are presented. In the first study, the urban study, two similar groups of pregnant women of high and low socioeconomic status from Guatemala City were studied. "The average placental weight in the low socioeconomic group was 15 percent below that of the high socioeconomic group and there was a consistent association between the postpartum maternal weight and

placental weight." Other differences and similarities found between the two groups are also reported. "The hypothesis that the difference in placental weight observed between the two groups was primarily due to maternal nutritional status was tested in the second study by means of nutritional intervention in four rural villages in Guatemala." In two of the villages a protein-calorie supplement was distributed, and in the other two villages a calorie supplement was distributed. The women in these rural villages were divided into two groups according to their total calorie intake during pregnancy ($< 20,000$ and $> 20,000$ calories). The placental weight was found to be consistently higher in the women having high levels of supplemented calories during pregnancy, regardless of the type of food supplement used. "On the average, the groups with low caloric supplementation ($< 20,000$ calories) had placental weight 11 per cent below those with high caloric supplementation ($\geq 20,000$ calories). In contrast to placental weight, the concentration of placental chemical components studied was not associated with caloric supplementation. It was concluded that moderate protein-calorie malnutrition during pregnancy leads to lower placental weight without significantly changing the concentration of the biochemical components studied. The reduction of placental weight may be the mechanism by which maternal malnutrition is associated with high prevalence of low-birth-weight babies in these populations.

283. Leck, Ian: "Causation of Neural Tube Defects: Clues from Epidemiology," *British Medical Bulletin*, 30:158-163, May, 1974.

Considered in this review article are relationships found between variations in a number of factors and the incidence of neural tube deficits. These include variations in place and race, variations in time, variations in parental circumstances, and variations in sex and siblings. Then considered are the possible sources or causes of these noted variations, including differential losses by miscarriage, genetic influences, and environmental influences.

284. Lee, Chang Y.; DiLoreto, Panfilo C.; and O'Lane, John M.: "A Study of Fetal Heart Rate Acceleration Patterns," *Obstetrics and Gynecology*, 45:142-146, February, 1975.

Fetal heart rate (FHR) acceleration patterns were studied from 711 FHR monitoring records. Observations are reported, and FHR acceleration patterns are classified into two major groups, periodic and nonperiodic. This classification system is further explained, physiologic aspects of FHR acceleration are discussed, and a five-item summary is presented: "1. Fetal heart rate acceleration is a reflection of fetal well-being. It is the most frequent fetal heart rate change found in fetal heart rate monitoring. 2. Classification of FHR acceleration patterns has been attempted based upon configuration, combination, relation to fetal activity, and uterine contractions. 3. Partial umbilical cord compression, fetal activity, and peripheral nerve stimulation are the main physiologic causes of FHR acceleration. 4. FHR acceleration is indeed a response of the healthy fetus to stimuli and stresses. Observation and proper evaluation of FHR acceleration will give reassurance of fetal well-being. 5. Fetal activity acceleration determination (FAD) is a method of evaluation of antepartum fetal well-being. The FAD can be used where the oxytocin challenge test is contraindicated."

285. Lee, D.H.: "Children in Hospital Schools," *Special Education: Future Trends*, 2:25-27, December, 1975.

The need of such children for support in the absence of the mother, and how education contributes to this support are discussed. Also considered are the encountering of death by the children in the hospital, and children encountering handicaps in others in the hospital.

286. Lee, D.H.: "The Role of Teachers in Hospitals," *Special Education: Future Trends*, 2:21-23, September, 1975.

Discussed are special problems in method and content and special aspects of teaching children in hospital schools or children on hospital wards. The qualities of good hospital teachers are considered as are the need for discretion and the problems encountered relating to death. "Humanity, maturity of personality and stability of temperament, coupled with a strong sense of humour, are essential if a teacher is to be successful. What has to be offered is a form of education which is in some way better than the child would normally receive, and not merely a sophisticated exercise in child-minding."

287. Lee, Kwang-sun; Gartner, Lawrence M.; and Zarafu, Ilana: "Fluorescent Dye Method for Determination of the Bilirubin-Binding Capacity of Serum Albumin," *Journal of Pediatrics*, 86:280-285, February, 1975.

Described are the procedures and results from "a simple, rapid microfluorometric method utilizing a fluorescent dye, Direct Yellow 7, for quantitative measurement of serum albumin-binding capacity for bilirubin." "Evaluation of the dye has been limited at present, to examination of adult human and cord sera, but clinical studies are in progress to evaluate the method in neonates. It is apparent that only long-term study of a population of infants at risk will be able to determine the value of the method for prediction of neurologic outcome."

288. Lesinski, John: "High-Risk Pregnancy: Unresolved Problems of Screening, Management, and Prognosis," *Obstetrics and Gynecology*, 46:599-603, November, 1975.

Current problems concerning screening, management, and prognosis in high-risk pregnancy are individually discussed in this editorial. Screening methods being utilized, their usefulness, the need for evaluation of methods and programs, and the need for a complete, long-range view of prognosis are among the topics considered.

289. Leventhal, John M.; Brown, Walter U.; Weiss, Jess B.; and Alper, Milton H.: "A New Method of Fetal Heart Rate Monitoring," *Obstetrics and Gynecology*, 45:494-500, May, 1975.

Disadvantages of various methods currently used to monitor fetal heart rate during labor are discussed. Described is a non-invasive method of continuous fetal heart rate monitoring in which electrodes are placed on the maternal abdomen. Results are presented for a group of patients monitored by this method

over a period of 26 months and comprising a total of 2,460 hours of intrapartum monitoring. The method "was shown to be as accurate as the direct scalp electrode method and more reliable than indirect ultrasound. Useful fetal monitoring, from very early labor up to the time of delivery, was possible in 91% of 507 patients, using maternal skin electrodes alone. Beat-to-beat variability determinations, possibly of significance in evaluating fetoplacental function in the antepartum period, were precise and without the artifactuality of ultrasonic or phonocardiographic methods."

290. Lindberg, U.; Hagberg, B.; Olsson, Y.; and Sourander, P.: "Injury of the Spinal Cord at Birth," *Acta Paediatrica Scandinavica*, 64:546-550, May, 1975.

Two such cases are reported. One of the children died at eight months of age and autopsy findings are presented. The other child is alive at age six years. "She is tetraparetic, is able to sit but has an extreme kyphoscoliosis." "In the vast majority of such cases the injury results from a traumatic breech delivery, but cases of injuries after cephalic presentation and fetal malposition have also been described....Incidence, mechanism of injury, clinical and morphological features, and treatment are briefly discussed."

291. Lipsitz, Philip J.: "A Proposed Narcotic Withdrawal Score for Use with Newborn Infants," *Clinical Pediatrics*, 14:592-594, June, 1975.

A proposed scoring system is presented, and results of an investigation to test its validity are reported. "This scoring system can help not only in identifying the newborn of a narcotic-addicted mother, but can be useful for rating the serial expressions of symptoms in such a newborn, for evaluation of treatment regimens, and even for determining whether to give treatment to an infant born to an addicted mother."

292. Little, T.M.; Girgis, S.S.; and Masotti, R.E.: "Diphenylhydantoin-Induced Gingival Hyperplasia: Its Response to Changes in Drug Dosage," *Developmental Medicine and Child Neurology*, 17:421-424, August, 1975.

A group of 48 mentally retarded children and adults with epilepsy were studied over a two year period regarding changes in gingival hyperplasia in relation to changes in diphenylhydantoin (DPH) dosage. During this two year period the dose of DPH was increased in 27 patients, decreased in nine, and was unchanged in 12. "It was found that the severity of gingival hyperplasia varied directly with both the dose and serum level of the drug." This finding is discussed in relation to the findings in other studies conducted in this area.

293. Lloyd-Still, John D.; Hurwitz, Irving; Wolff, Peter H.; and Shwachman, Harry: "Intellectual Development After Severe Malnutrition in Infancy," *Pediatrics*, 54:306-311, September, 1974.

A group of 41 patients, ranging in age from two to 21 years, who had been severely malnourished in infancy, were assessed as to intellectual performance, sensory motor abilities, and social adaptation. Of these 41 patients, 34 had cystic fibrosis. A group of 41 siblings acted as controls. Methods of

evaluation are described. The control children were found to score significantly higher on the Merrill-Palmer Scale than did the malnourished group, but no significant differences were noted on the WISC or the WAIS, which were used to assess the intellectual performance of the older patients. No significant differences were found between the two groups in sensory motor abilities or social adaptation as measured. "These results are consistent with the hypotheses that malnutrition in infancy can affect intellectual development in the first five years of life. Beyond this age, given adequate socioeconomic support, no significant differences were observed."

294. Lorber, John: "Isosorbide in Treatment of Infantile Hydrocephalus," *Archives of Disease in Childhood*, 53:431-436, June, 1975.

Isosorbide is described, and previous studies concerning its usage in the treatment of infantile hydrocephalus are reviewed. Isosorbide was administered to 34 selected children having all types of infantile hydrocephalus. Dosage, side effects, and their elimination are explained. "Isosorbide effectively prevented the need for shunt therapy in 10 of 34 patients, including 3 infants with uncomplicated congenital hydrocephalus of moderate degree and infants whose hydrocephalus was associated with spina bifida and whose cerebral mantle was between 20 to 25 mm. In posthaemorrhagic and postmeningitic hydrocephalus valuable time was gained before shunt therapy until the infant and his CSF were fit for operation." Findings are discussed, and it is noted that some of the ten children "might not have needed operation even without isosorbide."

295. Lorber, John: "Selective Treatment of Myelomeningocele: To Treat or Not to Treat?" *Pediatrics*, 53:307-308, March, 1974.

Recent studies in this area are reviewed, and the concept of "selective treatment" is considered.

296. Lorber, John: "Some Paediatric Aspects of Myelomeningocele," *Acta Orthopaedica Scandinavica*, 46:350-355, June, 1975.

Reviewed in this article are the prevention of myelomeningocele with recent antenatal detection methods, the decreased incidence of myelomeningocele, and a selective approach to treatment. A list is presented of "adverse signs, which subsequently served as criteria against any form of active treatment."

297. Low, J.A.; Pancham, S.R.; Worthington, D.; and Boston, R.W.: "Clinical Characteristics of Pregnancies Complicated by Intrapartum Fetal Asphyxia," *American Journal of Obstetrics and Gynecology*, 121:452-455, February 15, 1975.

A total of 124 pregnancies, complicated by intrapartum fetal asphyxia, were reviewed concerning maternal complications, signs of clinical fetal distress, Apgar score, and neonatal complications. Maternal complications were considered under the headings of medical, obstetrical, and labor complications. It was observed that "evidence of fetal asphyxia tends to appear earlier in patients with maternal medical and obstetric complications than in those with labor complications." Clinical fetal distress, as defined, occurred in 36% of

the cases and was not found to be related to the severity of the asphyxia. The infants were divided into those with moderate and those with severe asphyxia. A low Apgar score was found in 40% of the newborns with moderate asphyxia and in 80% with severe asphyxia. Clinical evidence of cerebral abnormalities occurred in 3% of the neonates, and evidence of the respiratory distress syndrome was found in 3%.

298. Low, J.A.; Pancham, S.R.; Worthington, D.; and Boston, R.W.: "The Acid-Base and Biochemical Characteristics of Intrapartum Fetal Asphyxia," *American Journal of Obstetrics and Gynecology*, 121:446-451, February 15, 1975.

The following were among the observations made on 124 patients who delivered infants displaying evidence of metabolic acidosis at delivery and on 140 normal obstetric patients having normal fetuses: "maternal venous blood acid-base, lactate, and pyruvate characteristics during labor and at delivery, fetal acid-base characteristics during the last half of labor, and acid-base, lactate, and pyruvate characteristics at delivery." The metabolic acidosis was found to be "principally caused by hyperlactatemia resulting from the tissue oxygen debt accompanying fetal asphyxia. Hypoxemia was one mechanism contributing to this fetal asphyxia and tissue oxygen debt. This evidence of fetal asphyxia developed during the last half and principally during the last two hours of the intrapartum period. Acid-base assessment of fetal blood with identification of a metabolic acidosis will provide an accurate objective diagnosis of intrapartum fetal asphyxia."

299. Low, J.A.; Pancham, S.R.; Worthington, D.; and Boston, R.W.: "The Incidence of Fetal Asphyxia in Six Hundred High-Risk Monitored Pregnancies," *American Journal of Obstetrics and Gynecology*, 121:456-459, February 15, 1975.

Evidence of fetal asphyxia at delivery, as defined, was analyzed in 600 high-risk, monitored obstetric patients. There was a 20% incidence of fetal asphyxia in the 600 cases, which is eight times higher than the incidence seen in a normal obstetric population. "Highly significant indicators of risk for asphyxia were severe toxemia (79 per cent), prematurity with further medical or obstetric complications (36 per cent), and clinical fetal distress, particularly meconium staining with fetal heart rate abnormality (33 per cent)."

300. Lowensohn, R.I.; Yeh, S.Y.; Forsythe, A.; and Hon, E.H.: "Computer Assessed Fetal Heart Rate Patterns and Fetal Scalp pH," *Obstetrics and Gynecology*, 46: 190-193, August, 1975.

Computer processing of data from fetal monitoring was utilized in an effort to predict fetal scalp blood pH from fetal heart rate patterns. Methods of monitoring and calculating are explained. Patients in the study were evaluated in a perinatal intensive care delivery room. "No single characteristic of the FHR was found to be an accurate predictor of fetal scalp blood pH, but a good correlation was obtained with a combination of several." These are described. "An uncorrected accuracy of 90% overall and a corrected accuracy of 91% on prediction of high pH and 72% on prediction of low pH suggests that it may be reasonable to use automated biophysical technics primarily for routine fetal surveillance, using fetal scalp blood sampling only when indicated. These promising preliminary results indicate that a larger prospective study should be done."

301. Lucey, Jerold F.: "The Xanthine Treatment of Apnea of Prematurity," *Pediatrics*, 55:584-586, May, 1975.

In this commentary the literature is reviewed, evidence indicating the effectiveness of xanthines in the treatment and prevention of apnea of prematurity is presented, and the need for further research is stated.

302. McCandless, A.E.; Davis, C.; and Hall, E.G.: "Bone Changes in Congenital Cytomegalic Inclusion Disease," *Archives of Disease in Childhood*, 50:160-162, February, 1975.

Reported is the case of a female infant born with cytomegalic inclusion disease and in whom described x-ray changes in bones were detected. "The x-ray changes were considered to be due to disturbance of endochondral bone formation and not due to viral osteomyelitis."

303. McConkey, Roy, and Jeffree, Dorothy: "Partnership with Parents," *Special Education: Future Trends*, 2:13-15, September, 1975.

Described is the Parental Involvement Project (PIP), which was begun in 1973 and will continue until 1977 at the University of Manchester, England. During the study period the researchers hope to work intensively with 20 to 25 parents of mentally handicapped preschoolers. Parents have frequent sessions with the staff, compile developmental charts on their children, and make observations at home of their child's behavior. With all of this information completed, a specific teaching objective and scheme for each child is developed. A book, *Let Me Speak*, has been written by the authors and is made available to the parents on an experimental basis. The book contains teaching games and activities for parents to use in enhancing their child's language development.

304. Macfarlane, David W.; Boyd, Robert D.; Dodrill, Carl B.; and Tufts, Emily: "Intrauterine Rubella, Head Size, and Intellect," *Pediatrics*, 55:797-801, June, 1975.

The literature is reviewed as are the handicaps often reported to be common among children afflicted with intrauterine rubella. In order to examine "the assumption that congenital rubella is commonly associated with microcephaly and mental retardation," 111 children making up a rubella clinic population were studied. Of these 111 children, 16 were unable to be tested because of severe visual and auditory problems and three had such severe behavioral problems that they could not be examined. The remaining 92 children were evaluated thoroughly as described at a mean age of 57 months. "The mean IQ for this group was 99.46 (SD, 19.5). Head circumference in this group correlated well with stature but poorly with intellect. The authors conclude that children with intrauterine rubella should be viewed as small children rather than children with small heads and that such children are poorly served if mental subnormality is assumed without careful study." "The authors emphasize that they wish in no way to minimize the severity and lifelong tragedy of the handicaps associated with intrauterine rubella. Children with deafness, visual defect, or cerebral palsy are frequently delayed functionally and educationally handicapped. We believe, however, that unwarranted and unproven assumptions of intellectual subnormality are commonly being made in children with rubella syndrome who are already handicapped by sensory or motor defect."

305. MacGillivray, Margaret H.: "Thyroid Dysfunction in the Neonatal Period," *Clinics in Perinatology*, 2:15-21, March, 1975.

Reviewed are interrelationships in thyroid function in the mother and fetus, recent diagnostic procedures, clinical features of perinatal thyroid dysfunction, treatment, and prognosis.

306. Maekawa, Kihei, and Ochiai, Yukikatsu: "Electromyographic Studies on Flexor Hypertonia of the Extremities of Newborn Infants," *Developmental Medicine and Child Neurology*, 17:440-446, August, 1975.

The literature is reviewed. A study was conducted on 107 Japanese, consecutive full-term newborns "to investigate why the flexor tone of the extremities in the newborn infant is increased after delivery." Neurological examinations and superficial electromyographic (EMG) recordings were performed both before and after the first 48 hours of life. Methods and scoring are explained. Satisfactory results were obtained in only 50 of the 107 infants. Findings regarding the traction response, the recoil of the forearm, and the popliteal angle are presented. Results are summarized, and "it is suggested that flexor hypertonia of the extremities in newborn infants is not a result of muscle contraction (i.e. real muscle strength) but rather is residual from the infant's position in utero."

307. Mahmood, Khalid, and Altshuler, Geoffrey: "Amniotic Band Syndrome in an Immature Fetus," *Obstetrics and Gynecology*, 45:349-351, March, 1975.

This condition of amniotic band malformations in a 14-week fetus is described as are the placental findings in this case. The literature is reviewed. "Because at this stage one cannot be precise about the etiologic correlates of amniotic bands, whether viral, genetic, chemical, or simply nonspecific, more data must be collected to establish the role of these factors in the pathogenesis of this syndrome."

308. Mahoney, Gerald J.: "Ethological Approach to Delayed Language Acquisition," *American Journal of Mental Deficiency*, 80:139-148, September, 1975.

The literature is reviewed, and the ethological approach to language acquisition is explained. This approach is thought to be of use in the consideration of delayed language acquisition. The ethological approach "suggests that noncognitive, interpersonal factors may be major contributors to the slow pace of language development among mentally retarded and autistic children." Instead of viewing the child's cognitive functions as being the cause of the delay in language development, this approach stresses the lack of an effectual pattern of interaction between the child and his social environment as contributing greatly to this delay. The research implications for the development of language intervention programs suggested by the concept are discussed.

309. Malan, A.F., and Higgs, S.C.: "Gestational Age Assessment in Infants of Very Low Birthweight," *Archives of Disease in Childhood*, 50:322-324, April, 1975.

In order to determine its accuracy in predicting gestational age with infants of very low birthweight, the Dubowitz system was used to assess gestational age in a group of infants having birthweights of 1500 g. or less. The mothers were then interviewed to determine their last normal menstrual period date, and gestational age was calculated from that date. A good correlation was found between the scored and the calculated ages of these infants. It is concluded that the Dubowitz scoring "system is applicable to and accurate for infants delivered very prematurely."

310. Mann, Leon I.; Bhakthavathsalan, Amrutha; Liu, Maida; and Makowski, Philip: "Effect of Alcohol on Fetal Cerebral Function and Metabolism," *American Journal of Obstetrics and Gynecology*, 122:845-851, August 1, 1975.

Research on the maternal infusion of alcohol to prevent premature labor is noted. In order to study the effect of this infusion on fetal cerebral function, an alcohol-dextrose solution was infused as described in ten pregnant sheep for either one or two hours, and the electroencephalogram (EEG) and fetal brain metabolism were investigated as described. Findings are reported concerning the fetal alcohol concentration and cerebral A-V difference, and on fetal cerebral cardiovascular, fetal cerebral metabolic, and fetal EEG observations. "Fetal cerebral uptake of oxygen was unaffected. Blood flow was significantly increased as a result of a greater decrease in resistance than decrease in blood pressure. The cerebral uptake of glucose and the glucose-oxygen utilization ratio were significantly increased. The EEG showed a decrease in amplitute and slowing of the dominant rhythm as the blood alcohol concentration increased and became isoelectric on occasion during the postinfusion period associated with a severe fetal acidosis." These findings are discussed and related to the human subject.

311. Mann, Leon I.; Bhakthavathsalan, Amrutha; Liu, Maida; and Makowski, Philip: "Placental Transport of Alcohol and Its Effect on Maternal and Fetal Acid-Base Balance," *American Journal of Obstetrics and Gynecology*, 122:837-844, August 1, 1975.

Studies concerned with alcohol infusion as a means of preventing premature labor are mentioned. In order to study the placental transport of alcohol and its effect on maternal and fetal systems, an alcohol-dextrose solution was infused as described in ten pregnant sheep for either one or two hours. Serial maternal and fetal blood samples were drawn during and after the infusion and were analyzed. Findings are reported concerning the maternal-fetal alcohol concentrations and the maternal and fetal cardiovascular and metabolic observations. Revealed were a "rapid placental diffusion of alcohol, a highly significant correlation between maternal and fetal blood alcohol concentrations, and a similar peak concentration of approximately 0.230 Gm. per 100 ml. in maternal and fetal blood that differed only in time of onset during the 1 and 2 hour infusion periods. Blood alcohol concentrations remained high for several hours during the postinfusion period....An initial fetal metabolic acidosis and later mixed acidosis were observed during the alcohol infusion and worsened during the postinfusion period." These and other findings are discussed.

312. Marsden, C.D.: "The Physiological Basis of Ataxia," *Physiotherapy*, 61:326-328, November, 1975.

Reviewed are motor deficits found in cerebellar disease, motor deficits found in sensory ataxia, motor control mechanisms, and the anatomy and physiology of the cerebellum. It is concluded that "we are woefully ignorant of the exact function of the cerebellum. A lot is known about its structure, and about what happens when it is damaged. But its true role under normal circumstances is only just beginning to be understood. Until that is established, one can only speculate as to how its function may be disturbed to cause the clinical symptoms seen in the ataxic patient."

313. Marshall, Byrne R., and Parisi, Frederick: "Maternal Serum Heat-Stable Alkaline Phosphatase in Normal and High-Risk Pregnancies," *Obstetrics and Gynecology*, 45:136-141, February, 1975.

A total of 1272 maternal serum heat-stable alkaline phosphatase (HSAP) determinations were performed as described. They were serial measured from 76 normal and 161 high-risk pregnancies. The various complications seen in the high-risk group are listed. "No relation was seen between HSAP levels and mild or moderate hypertension, gestational diabetes, nontoxemic placental insufficiency, or maternal blood group. HSAP levels were mostly above normal in proteinuric hypertension and were low normal in pregnant insulin-dependent diabetics." Findings also indicated that the HSAP determinations were not consistent in the cases of fetal death. "Our observations tend to confirm that HSAP measurement is not sufficiently specific to rate as a superior index of placental function or of fetal status."

314. Martin, F.I.R.; Dahlenburg, G.W.; Russell, Joan; and Jeffrey, P.: "Neonatal Hypoglycaemia in Infants of Insulin-Dependent Diabetic Mothers," *Archives of Disease in Childhood*, 50:472-476, June, 1975.

Studied were 34 infants born to diabetic mothers requiring insulin. These cases are described. Of the 34 infants, 25 developed neonatal hypoglycemia (blood glucose < 20 mg/100 ml) in the first six hours of life. "Despite severe hypoglycaemia (blood glucose < 10 mg/100 ml) in 17, clinical features of hypoglycaemia were absent in all but 2. Hypoglycaemia was not related either to the level of plasma insulin in cord blood, determined as nonextracted immunoreactive insulin, or to the degree of control of maternal blood glucose during pregnancy. The frequent occurrence of severe neonatal hypoglycaemia in the infants born to diabetic mothers receiving insulin appears to be due rather to failure to maintain basal glucose homeostatsis after birth than to hyperinsulinism." Findings are discussed, and the literature is reviewed.

315. Martin, Patricia: "Marital Breakdown in Families of Patients with Spina Bifida Cystica," *Developmental Medicine and Child Neurology*, 17:757-764, December, 1975.

The literature is reviewed, and a study is presented in which the families of children with spina bifida cystica were studied. Included in the study were 34 mothers or guardians of children with spina bifida cystica who comprised the

Study Group, 59 mothers of healthy children having just minor illnesses who comprised Comparison Group A, and 60 mothers of children having juvenile-onset diabetes who comprised Comparison Group B. Findings are presented regarding the state of the marriages in these three groups, the reasons for divorce or separation, the effects of the child's illness on the marriages, and the number of children in each group not living with the natural parents. No significant differences were found among the three groups regarding the incidence of divorce or separation. "While in some cases a child with spina bifida may be the factor responsible for the breakdown of a marriage which is already strained, in other cases such a child may bring the parents closer together. A further finding was that, compared with other children in this study, a greater proportion of children with spina bifida do not remain with their natural parents." Findings are compared with previous studies and the importance of early intervention is discussed.

316. Mata, Leonardo J.; Urrutia, Juan J.; Kronmal, Richard A., and Joplin, Claire: "Survival and Physical Growth in Infancy and Early Childhood; Study of Birth Weight and Gestational Age in a Guatemalan Indian Village," *American Journal of Diseases of Children*, 129:561-566, May, 1975.

A study is described in which a total of 465 deliveries, occurring in a Guatemalan village between 1963 and 1972, were followed as described. Birth weight was known in 96% of these cases and gestational age was known in 93%. "There was a remarkable constancy in the pattern of fetal growth, infant mortality, and postnatal growth during the study period." Findings in these areas are presented and discussed.

317. Mathews, D.D.: "Maternal Assessment of Fetal Activity in Small-for-Dates Infants," *Obstetrics and Gynecology*, 45:488-493, May, 1975.

The use of the maternal history of fetal activity as a method of assessing fetal well-being is discussed. Fifty consecutive obstetric cases were studied in which the antenatal diagnosis of a small for gestational age infant had been made and the subsequent birthweight was 2.5 kg. or less after at least 37 weeks of pregnancy. Also in these 50 patients either vigorous (36) or marked reduction (14) in fetal activity had been reported during the week preceding delivery. Much information on these patients is presented. The findings indicated that "especially in such hypertensive pregnancies, a maternal history of reduced overall fetal activity is very suggestive of impending fetal death, while a history of vigorous fetal activity tends to denote that the fetus is in no immediate danger." The results are interpreted, and "a plea is made for greater awareness of the value of ascertaining the maternal history of fetal activity in small for gestational age pregnancies."

318. Mathis, Helen J.: "Adaptive Walker for Child with Cerebral Palsy," *Physical Therapy*, 55:1344-1345, December, 1975.

Such a walker and its use with a young child are pictured. "According to the Bobath neuromuscular developmental theory, a reflex-inhibiting response can be elicited by bringing the upper extremities into a flexed position, thereby

breaking up the extensor pattern. Using this theory as a guide, we devised an adaptation to a Rollator walker...to keep the child's arm flexed." The construction of this adaptation is explained.

319. Mawdsley, C.: "Diseases of the Central Nervous System: Involuntary Movements," *British Medical Journal*, 4:572-574, December 6, 1975.

Certain involuntary movement disorders are described under the classifications of tics, tremors, ballism, athetosis, myoclonus, and miscellansous involuntary movements.

320. Mayer, Alvin M.: "Malnutrition - Still a Common Problem for Children in the United States," *Clinical Pediatrics*, 14:23-24, January, 1975.

Statistics and studies are reviewed, and the clinical consequences of childhood malnutrition are considered, including relationships to brain development and behavior. Causative factors are discussed as are methods of improving childhood nutrition in this country.

321. Mead Johnson Symposium on Perinatal and Developmental Medicine, Number 5. *Perinatal Pharmacology*. Evansville, Indiana: Mead Johnson, 1975. 100 pp.

This volume is based on a symposium held in Vail, Colorado in June, 1974 and contains nine papers presented on various aspects of perinatal pharmacology. A bibliography follows each presentation.

322. Mealey, John, Jr.: "Infantile Subdural Hematomas," *Pediatric Clinics of North America*, 22:433-442, May, 1975.

Aspects considered include etiology, pathology, clinical manifestations, treatment, and results of treatment. Eighty cases of infantile subdural hematoma treated at the Riley Hospital for Children in Indianapolis are reviewed.

323. Menkes, John H.: *Textbook of Child Neurology*. Philadelphia: Lea & Febiger, 1974. 583 pp.

This book consists of thirteen chapters, each concerned with some pediatric disorder of the nervous system. Besides Dr. Menkes four other physicians offer contributions to the volume. Included among the chapter titles are "Malformations of the Central Nervous System" by Dr. Ronald S. Gabriel, "Perinatal Trauma," "Infections of the Nervous System" by Dr. Marvin L. Weil, "Post-natal Trauma and Injuries by Physical Agents" by Dr. Menkes and Dr. Ulrich Batzdorf, and "Disorders of Mental Development" by Dr. Marcel Kinsbourne. There are extensive bibliographies after each chapter and a detailed subject index.

324. Meyer, Rose: "The Sock Aid," *American Journal of Occupational Therapy*, 29:231, April, 1975.

A plastic bracelet-like device is described and pictured as being an aid for the handicapped person in the process of putting on socks.

325. Mickal, Abe, and Panzer, J.D.: "The Safety of Lincomycin in Pregnancy," *American Journal of Obstetrics and Gynecology*, 121:1071-1074, April 15, 1975.

The offspring of a group of women, who had taken the antibiotic lincomycin during the first, second, or third trimesters of pregnancy, were examined for follow-up at various periods up to age seven and one half years. Findings were compared to those of a control group of children whose mothers did not take lincomycin during pregnancy. The findings indicated that "the study group did not show any more developmental anomalies of the teeth, specific physical defects, general developmental anomalies, or late developing abnormalities in speech, emotional and mental make-up, or ability to adjust to schooling, than would occur in the normal population."

326. Miller, Frank C.; Sacks, David A.; Yeh, Sze-Ya; Paul, Richard H.; Schifrin, Barry S.; Martin, Chester B., Jr.; and Hon, Edward H.: "Significance of Meconium During Labor," *American Journal of Obstetrics and Gynecology*, 122:573-580, July 1, 1975.

In this described study maternal and fetal factors including fetal heart rate and fetal scalp blood were monitored and evaluated during labor in 366 consecutive cases. A total of 26,110 uterine contractions were monitored. Of these 366 cases, 106 had meconium in the amniotic fluid at some time during labor. The meconium group was subdivided into five listed subgroups, and comparisons were made between the meconium and nonmeconium groups and between the various meconium subgroups. "Although there was a 3 1/2-fold increase in the incidence of low five-minute Apgar scores (less than 7) in the meconium group, signs of fetal distress were, with rare exception, not significantly different from those in the nonmeconium group. The presence of meconium in the amniotic fluid without signs of fetal asphyxia (late decelerations and acidosis) is not a sign of fetal distress and need not be an indication for active intervention. The combination of fetal asphyxia and meconium staining of the amniotic fluid, however, does enhance the potential for meconium aspiration and a poor neonatal outcome." The management of patients with meconium in the amniotic fluid during labor is discussed.

327. Miller, Tobie G., and Goldberg, Karen: "Sensorimotor Integration: An Interdisciplinary Approach," *Physical Therapy*, 55:501-504, May, 1975.

Described is a method of evaluation and treatment used with children having sensorimotor dysfunction at the John F. Kennedy Child Development Center in Denver. The initial evaluation process, treatment, academic intervention, and final evaluation are explained, using a case of a six-year-old child as an example.

328. Milunsky, Aubrey; Macri, James N.; Weiss, Robert R.; Alpert, Elliot; McIsaac, Donald G.; and Joshi, Mahdusudan S.: "Prenatal Detection of Neural Tube Defects," *American Journal of Obstetrics and Gynecology*, 122:313-315, June 1, 1975.

The uses of alpha-fetoprotein (AFP) and beta-trace protein (β-TP) in the prenatal diagnosis of neural tube defects (NTD) were compared in 28 amniotic fluid samples from fetuses with neural tube defects. Eight other samples were also studied. Findings indicated that AFP is at present the most reliable indicator. "Purification of β-TP and further development of a quantitative assay may increase its usefulness and allow elucidation of its source and mechanism of release. Until such time, AFP assay of amniotic fluid in patients at risk of having offspring with NTD must still be considered the most reliable prenatal detection technique. Our recommendation is that it be utilized together with ultrasound as well as amniography where possible."

329. Mitchell, Douglas G.: "Increased Lead Absorption: Paint Is Not the Only Problem," *Pediatrics*, 53:142-143, February, 1974.

Sources of lead poisoning other than paint are reviewed, and unanswered questions concerning exposure to lead in childhood are posed.

330. Moghissi, Kamran S.; Churchill, John A.; and Kurrle, Dorothy: "Relationship of Maternal Amino Acids and Proteins of Fetal Growth and Mental Development," *American Journal of Obstetrics and Gynecology*, 123:398-410, October 15, 1975.

Changes in maternal blood levels of various amino acids, blood proteins, and other maternal factors were compared to infant weight and cranial volume at birth and infant mental and motor development at age eight months. Blood samples were obtained as described for analysis from 129 obstetric patients, and their infants were subsequently evaluated as described at birth and at eight months of age. Methods of statistical analysis are explained, and correlations found between the maternal and fetal variables are reported. "Findings indicated that the concentrations of certain maternal amino acids and proteins in the third trimester of pregnancy correlated significantly with fetal growth and development. This study suggests: (1) specific proteins or amino acids may be responsible for different developmental measures; (2) injudicious dietary restrictions in pregnancy should be avoided; (3) the determination of $alpha_1$ globulin and a few amino acids such as glycine, lysine, and histidine in late pregnancy may be used as predictors of fetal growth and development." Further discussion of this article is conducted by Drs. Seymour L. Romney, Kenneth R. Niswander, William N. Spellacy, Roy M. Pitkin, Edward J. Quilligan, and Moghissi.

331. Moller, Jorn, and Ebbesen, Finn: "Phototherapy in Newborn Infants with Severe Rhesus Hemolytic Disease," *Journal of Pediatrics*, 86:135-157, January, 1975.

In order to study the effect of phototherapy in infants with severe rhesus hemolytic disease, a group of newborns with rhesus hemolytic disease born over a 38-month period, were studied. Infants born during the first 19 months (128 infants) received no phototherapy and were the controls, whereas infants born

during the last 19 months (79 infants) received phototherapy with white light as described. Significant differences were found between the two groups regarding the number of exchange transfusions needed. It is concluded "that white light phototherapy from birth with an illuminance of 3,900 lux on the top of the infants for about four days can reduce the number of late exchange transfusions even in severe cases of rhesus hemolytic disease."

332. Moore, Keith L.: *Before We Are Born: Basic Embryology and Birth Defects.* Philadelphia: W.B. Saunders, 1974. 245 pp.

In the initial seven chapters of this book reproduction and stages of prenatal development from week one to birth are outlined. The placenta is considered in Chapter 8 and congenital malformations in Chapter 9. In Chapters 12 through 19, the author discusses the development of the various body systems and the congenital malformations associated with each of these systems. There are many illustrations, a bibliography, and a subject index.

333. Mooty, Joyce; Ferrand, Charles F., Jr.; and Harris, Paul: "Relationship of Diet to Lead Poisoning in Children," *Pediatrics*, 55:636-639, May, 1975.

Studied were 46 children, ages 24 to 47 months, who were from low-income families and who attended a neighborhood health center. Of these 46 children, 25 had low blood lead levels (controls), while 21 had high blood lead levels (subjects), as defined. Dietary information was obtained on these children as described, and the two groups were compared. Findings indicated that there were no significant differences between the two groups in their protein, caloric, or iron intake. "The subjects were shorter and weighed less than the control group. Pica was more prevalent among children with plumbism. The findings of this study suggest that some factors other than dietary intake must account for the occurrence of lead poisoning in the subjects and that Blacks have a higher prevalence of plumbism in our area."

334. Morishima, Hisayo O.; Glaser, Bert; Niemann, Wendell H.; and James, L. Stanley: "Increased Uterine Activity and Fetal Deterioration During Maternal Hyperthermia," *American Journal of Obstetrics and Gynecology*, 121:531-538, February 15, 1975.

Twenty-three pregnant baboons were used to study the effect of hyperthermia in the absence of infection. Hyperthermia was induced as described in 12 of the animals while 11 formed a normothermic group. Methods are described. "Hyperthermia caused a twofold increase in uterine activity; a metabolic acidosis developed in the mother and a profound acidosis and hypoxia developed in the fetus. There was also a marked fall in blood pressure and an increase in heart rate in both mother and fetus; late decelerations of the fetal heart rate occurred at a higher oxygen level and pH_a than has been observed under normothermic conditions." Findings are discussed.

335. Morishima, Hisayo O.; Heymann, Michael A.; Rudolph, Abraham M.; Barrett, Cynthia T.; and James, L. Stanley: "Transfer of Lidocaine Across the Sheep Placenta to the Fetus," *American Journal of Obstetrics and Gynecology*, 122:581-588, July 1, 1975.

Lidocaine was administered either as a single injection or as a prolonged infusion as described to pregnant sheep, and the placental transfer of the drug, the removal of the drug from the fetal circulation, and the maternal and fetal hemodynamic and acid-base state responses were studied. "Lidocaine readily crossed the placenta and appeared in the fetal blood as early as one minute following injection. Disappearance of lidocaine in the asphyxiated fetus tended to be slower than in the normal one. Lidocaine produced a transient fall in the fetal heart rate which was accompanied by a decrease in blood pH and oxygenation. Lidocaine also reduced umbilical blood flow and, in some instances, uterine blood flow. Decrease in umbilical blood flow was more pronounced in the initially asphyxiated fetus." Findings are discussed.

336. Morrison, Ian: "The Elderly Primigravida," *American Journal of Obstetrics and Gynecology*, 121:465-470, February 15, 1975.

Reviewed were 127 patients in their first pregnancies who were 35 years of age or older. Six parameters were used to assess the fetal risk in these cases. These six were the perinatal mortality rate, the incidence of small-for-dates infants, the prematurity rate, the incidence of congenital abnormalities, the presence of meconium in labor, and the incidence of neonatal morbidity, as defined. Data is also presented on the prenatal period in these cases, the labor, the medical and/or surgical induction of labor, the performance of cesarean section, and the premature and small-for-dates infants in this group. Management of such patients is also considered. "With the equivalent of a perinatal mortality rate of 94/1,000, an 11 per cent incidence of small-for-dates infants, and a neonatal morbidity rate of 18 per cent, there would still appear to be a need for an increased awareness of the fetal risks in this group and an increased emphasis on their prevention."

337. Morselli, P.L.; Garattini, S.; and Sereni, F., eds.: *Basic and Therapeutic Aspects of Perinatal Pharmacology*. New York: Raven Press, 1975. 440 pp. (Monographs of the Mario Negri Institute for Pharmacological Research, Milan.)

This volume is based on a symposium held in Milan, Italy in June, 1974. Over 40 papers are presented in the following areas: "Problems of Drug Therapy in the Newborn," "Placental Transfer of Drugs and Effects on the Fetus and the Newborn," "Effects of Narcotics on the Fetus and Newborn," "Drug Toxicity and Effects in the Perinatal Period," "Developmental Aspects," "Drug Interactions in the Perinatal Period," "Various Aspects of Drug Kinetics in the Fetus and the Newborn," and "Ethical and Practical Problems of Clinical Trials and Clinical Practice." There are many lists of references and a subject index.

338. Müller-Tyl, E., and Lempert, J.: "The Prediction of Fetal Lung Maturity from the Surface Tension Characteristics of Amniotic Fluid," *Journal of Perinatal Medicine*, 3:47-52, 1975.

In order to establish normal values for fetal lung maturity, surface properties were measured as described in 98 samples of amniotic fluid obtained from weeks 23 to 41 of gestation. "In the evaluation of the surface activity of amniotic fluid y-min appears to be the most suitable parameter because it shows a considerable change during the course of preganancy and has low variations." Amniotic fluid was also obtained at delivery in 64 premature cases. "The correlation of clinical symptoms of the premature with y-min of the amniotic fluid makes it possible to predict the fetal lung maturity at a given y-min-value.... When the results are arranged according to the incidence of RDS (lethal RDS, recovered from RDS, and without RDS) three y-min-ranges can be clearly distinguished. When y-min of the amniotic fluid is over 27 dyn/cm the probability of lethal RDS is 100%, whereas when y-min is under 17 dyn/cm a mature lung can be expected. In the range between 27 to 17 dyn/cm any degree of lung maturity can be encountered." This latter range can be further subdivided to allow more accurate prediction. "Thus the determination of surface activity in amniotic fluid gives us a very reliable measure of lung maturity that is not dependent on the duration of pregnancy, which is often unreliable because of inaccurate term calculations."

339. Munday, P., and Hamlett, J.D.: "Recognition of Meconium Staining of the Liquor Amnii at Amnioscopy," *American Journal of Obstetrics and Gynecology*, 122:732-733, July 15, 1975.

In order to assess the reliability of amnioscopy in detecting meconium staining of the liquor amnii, findings were analyzed when amnioscopy was performed immediately before amniotomy in 429 patients. The results indicated that "under the conditions which prevail in most obstetric units, amnioscopy was found to be an unreliable method of detecting meconium staining of the liquor amnii. False-positive findings are infrequent but false-negative findings are common."

340. Myers, Jerry L.; Harrell, Mary Jane P.; and Hill, Freddie L.: "Fetal Maturity: Biochemical Analyses of Amniotic Fluid," *American Journal of Obstetrics and Gynecology*, 121:961-967, April 1, 1975.

In order to assess fetal maturity, 103 amniotic fluid samples were obtained from 85 obstetric patients. One or more of the following four measurements were determined on these samples: the lecithin/sphingomyelin ratio (L/S), the bilirubin concentration, the creatinine concentration, and the fetal fat cell count. The rapid foam test was also conducted on 20 of these samples to evaluate its reliability in predicting the risk of the respiratory distress syndrome. Methods are described, and results with each of these methods are presented. The rapid foam test was not found to be reliable in predicting the risk of the respiratory distress syndrome. All of the four tests were found to be useful in predicting fetal maturity but had varying degrees of accuracy. "These studies support the use of the amniotic fluid L/S ratio as the best test for fetal maturity and the most reliable method of predicting the risk of the respiratory distress syndrome. Creatinine concentration, Δ O.D. 450 mμ, and the fetal fat cell count also provide useful supplementary information about the degree of maturity attained by the fetus but should be done in conjunction with the L/S ratio."

341. Naderi, Shahrokh: "Smallpox Vaccination During Pregnancy," *Obstetrics and Gynecology*, 46:223-226, August, 1975.

This reported study was possible because of a smallpox outbreak in Iran in 1971. A group of 1,522 consecutive pregnant women who had had smallpox vaccination during recent pregnancies was compared regarding fetal outcome to a similar group of 2,024 consecutive pregnant women who did not receive any vaccination during pregnancy (controls). "Results showed that smallpox vaccination during pregnancy did not increase the rate of stillbirths, premature births, or congenital abnormalities in patients who had been vaccinated at least once before. However, it was noted that women vaccinated during the first trimester of pregnancy more often had children with clubfoot. Therefore, unless there is an immediate risk, we recommend delaying smallpox vaccination during pregnancy until the second or third trimester. However, during an epidemic, vaccination should be done regardless of gestational age." Findings are discussed, and the literature is reviewed.

342. Nadler, Henry L.: "Prenatal Diagnosis of Inborn Defects: A Status Report," *Hospital Practice*, 10:6:41-51, June, 1975.

The use of transabdominal amniocentesis is stressed as being the most widely used method of prenatal diagnosis of unborn defects. Chromosomal defects, disorders of lipid, carbohydrate, mucopolysaccharide, and amino acid metabolism, miscellaneous disorders, central nervous system malformations, and hemoglobinpathies are each considered individually with regard to prenatal diagnosis. Other methods of prenatal diagnosis, including fetal visualization techniques and maternal and fetal serology, are briefly mentioned, and problems in prenatal diagnosis are discussed.

343. Nadler, Henry L.: "Present Status of the Prevention of Neural Tube Defects," *Pediatrics*, 55:751-753, June, 1975.

Recent developments in the area of prevention of neural tube defects are discussed, and the literature is reviewed.

344. Nathanielsz, P.W.: "Thyroid Function in the Fetus and Newborn Mammal," *British Medical Bulletin*, 31:51-56, January, 1975.

Studies are reviewed that deal with the structural development of the thyroid gland, the effect of a fetal thyroidectomy, the roles of thyroxine and triiodothyronine in the perinatal period, and the hypothalamic and pituitary control of the thyroid axis. Both human and animal studies are included.

345. Nelson, George H.: "Risk of Respiratory Distress Syndrome as Determined by Amniotic Fluid Lecithin Concentration," *American Journal of Obstetrics and Gynecology*, 121:753-755, March 15, 1975.

Some 476 samples of amniotic fluid were obtained within 72 hours of delivery, and the lecithin concentration was determined as explained. Results indicated

that the risk of respiratory distress syndrome was minimal when the lecithin levels were above 0.100 mg/100 ml, but that the risk was increased as the lecithin levels decreased from 0.100 mg/100 ml toward zero. The 'risk factor' for varying levels of lecithin from zero to 0.100 mg/100 ml was then determined by means of a simple mathematical equation. This equation is presented and explained, and a method of managing individual high-risk patients is described.

346. Neman, Ronald; Roos, Philip; McCann, Brian M.; Menolascino, Frank J.; and Heal, Laird W.: "Experimental Evaluation of Sensorimotor Patterning Used with Mentally Retarded Children," *American Journal of Mental Deficiency*, 79:372-384, January, 1975.

Sensorimotor training techniques, the Doman-Delacato treatment theory, and relevant literature are reviewed. In a described study, 66 institutionalized mentally retarded children were randomly placed in one of three groups. In Experimental 1 group a sensorimotor patterning program of treatment was conducted as described. This program included "mobility exercises including patterning, creeping and crawling; visual-motor training; and sensory stimulation exercises." The children in Experimental 2 group received a less structured program of physical activity, sensory stimulation, and individual attention. The third group was a Passive Control group. Other test results available on these children, the procedures followed in the study, treatment distinctions, and methods of data analysis are described. Findings indicated that "Experimental 1 group subjects improved more than subjects in the other groups in visual perception, program-related measures of mobility, and language ability. Intellectual functioning did not appear to be enhanced by the procedures at least during the active phase of the project. The results were discussed with reference to other researchers who have failed to support the patterning approach, and some reasons were suggested for the differences between the present and past investigations."

347. Nervez, Cecilia T.; Shott, Roger J.; Bergstrom, William H.; and Williams, Margaret L.: "Prophylaxis Against Hypocalcemia in Low-Birth-Weight Infants Requiring Bicarbonate Infusion," *Journal of Pediatrics*, 87:439-442, September, 1975.

Studied regarding serum calcium concentrations and urinary calcium excretion were 48 infants of low birth weight who had varying degrees of respiratory distress. These infants and their treatment are described. Within the group of 48 infants four "groups were identified: (1) infants who received neither bicarbonate or calcium during the 24-hour study period; (2) infants who received no bicarbonate but were given calcium by constant infusion for 24 hours; (3) infants who were given bicarbonate but no calcium; and infants who received both bicarbonate and constant calcium infusion." Among the findings was that "serum calcium decreased over the 24-hour study period in infants who did not receive calcium infusion. The decrease was greater in those receiving bicarbonate therapy for acidosis. Continuous calcium infusion at 1 mg/kg/hr sustained relatively normal serum calcium concentration, even in those infants who required bicarbonate."

348. Neuhäuser, Gerhard: "Methods of Assessing and Recording Motor Skills and Movement Patterns," *Developmental Medicine and Child Neurology*, 17:369-386, June, 1975.

The literature in this area is extensively reviewed, "and various methods of movement analysis are discussed from a clinical and instrumental point of view." A lengthy list of references is included.

349. Neumann, Lois L., and Cohen, Sanford N.: "The Neonatal Narcotic Withdrawal Syndrome: A Therapeutic Challenge," *Clinics in Perinatology*, 2:99-109, March, 1975.

The literature is reviewed regarding the symptoms of the withdrawal syndrome and its treatment.

350. Newberne, Paul M.: "Animal Models for Investigation of Latent Effects of Malnutrition," *American Journal of Diseases of Children*, 129:574-577, May, 1975.

The importance of animal models in the studies conducted in this area is stressed. Models are presented for the study of congenital hydrocephalus, susceptibility to viral infection after intrauterine malnutrition, diminished anti-Salmonella host defenses, and demyelination syndromes. "In each model discussed in this article, the importance of the maternal organism to the welfare of the offspring is central and unmistakable. The fact that unfavorable prenatal and perinatal influences can have far-reaching latent effects on the progeny must be accorded increased attention."

351. Newman, Robert G.; Bashkow, Sylvia; and Calko, Doris: "Results of 313 Consecutive Live Births of Infants Delivered to Patients in the New York City Methadone Maintenance Treatment Program," *American Journal of Obstetrics and Gynecology*, 121:233-237, January 15, 1975.

This program is described as are the patients and the results of the data analysis. Conclusions are listed. "No significant association was found between maternal dosage or methadone in the last trimester of pregnancy and length of gestation, birth weight, or the reported presence of withdrawal symptoms in the neonate. The infant mortality rate was identical to the over-all New York City rate, specific for ethnicity."

352. Nicholls, Robert: "Merging Their Education," *Special Education: Future Trends*, 2:22-24, June, 1975.

Described is an experimental program at two British schools in which severely and mildly handicapped "children of all ages and many types of handicap are educated in what is now a single school." The process of developing the links between the two schools, the problems, the aims and organizational changes, practical needs, and questions frequently asked about the program are discussed.

353. Nicholls, Sheila; Yuille, T.D.; and Mitchell, R.G.: "Perinatal Infections Caused by Haemophilus Influenzae," *Archives of Disease in Childhood*, 50:739-741, September, 1975.

The literature is reviewed, and two case reports are presented of perinatal infections caused by hemophilus influenza. In both cases organisms were detected in both the mothers and the babies. "It is likely that both mothers were carrying H. influenzae in the lower genital tract during pregnancy, and that intrauterine infection occurred by the ascending route after rupture of the membranes."

354. Nicol, Edna, and Woods, Elizabeth: "Introducing the Charlton Tutor," *Special Education: Future Trends*, 2:13-14, March, 1975.

The Charlton Tutor, a teaching aid, for use with severely motor handicapped children is described and pictured. Also explained is a reading program being developed for use with this device.

355. Nightingale, Elena O.; Scribanu, Nina; McCullough, David C.; and Quinn, Catherine: "Observations on Patients with Neural-Tube Defects in a Metropolitan Hospital Clinic: An Epidemiological History," *Developmental Medicine and Child Neurology*, 17:574-579, October, 1975.

Reviewed and studied were the cases of all children (107 patients) referred to the Spina Bifida Service of the Georgetown University Hospital in Washington, D.C. over a four year period, and a control population of children from the same hospital. Findings are reported regarding the ethnic origin of these patients, their family history, and several other factors. Among the findings was the fact "that, although situated in an ethnically heterogeneous area, Service patients with a history of neural-tube defects in siblings or family significantly more often had ancestors on both sides from the British Isles than did either isolated cases or the controls." It is suggested that each population of patients with neural-tube defects be similarily studied "in order to provide more realistic counseling and so that clues may be gathered as to the genetic mechanisms and environmental factors which lead to the production of such defects."

356. Niswander, Kenneth R.; Gordon, Myron; and Drage, Joseph S.: "The Effect of Intrauterine Hypoxia on the Child Surviving to 4 Years," *American Journal of Obstetrics and Gynecology*, 121:892-899, April 1, 1975.

In order to determine if "sublethal degrees of hypoxia result frequently in brain damage in surviving infants," test results at four years of age on the Stanford-Binet IQ test and on gross and fine motor evaluations were compared in children whose mothers as obstetric patients had had abruptio placental, placenta previa, or prolapse of the umbilical cord and in computer-matched control children. Previous test data on these children are presented. No differences in mean IQ scores nor in fine and gross motor test results were found between the two groups. Findings for the low-birth-weight and mature-birth-weight children are presented separately for both groups and compared. In both the case and control groups, the children who had low birth weights were found to have

"lower IQ scores and higher risk of abnormal findings on the motor tests at 4 years than the babies of mature birth weight." Comment is made on these findings and it is concluded "from the data reported in this study as well as from a critical review of the literature that intrauterine hypoxia/asphyxia is an infrequent precedent to brain damage or dysfunction in the child so affected."

357. North, A. Frederick, Jr.: "Screening in Child Health Care: Where Are We Now and Where Are We Going?" *Pediatrics*, 54:631-640, November, 1974.

Data is presented in a table and by discussion on the usefulness of available screening tests of phenyketonuria, galactosemia, other inborn metabolic errors, anemia, sickle cell diseases, hemoglobin S and C traits, urinary tract infection, impaired hearing, and impaired visual acuity. Information on such tests is also presented in the areas of deviant physical growth, deviant psychomotor development, glucosuria, albuminuria, cystic fibrosis, high blood pressure, elevated serum cholesterol, deviant behavior, intestinal parasites, dental diseases, increased lead absorption, tuberculosis, and occult stool blood. Also considered are the screening interview, the screening physical examination, and directions to be taken in the future regarding research, program administration, and testing.

358. Norton, Yvonne: "Neurodevelopment and Sensory Integration," *American Journal of Occupational Therapy*, 29:93-100, February, 1975.

The literature is reviewed, and the sensory integration and neurodevelopmental treatment approaches are explained. The principles of these approaches were utilized in a described nine-month treatment program at the Hitchcock Rehabilitation Center in Aiken, South Carolina. In this program parents were trained to treat and handle their multiply handicapped children at home. The mothers were closely supervised by the Center's staff. Methods used and results obtained with the three multiply handicapped children, ages three and four years, in the study are presented. Both the home and clinic programs for these children are explained as are the procedures used for evaluation and monthly reassessments. Findings and implications of the study are discussed. "Although there were too few subjects for generalization, it might be that combined neurodevelopmental/sensory integration treatment for the profoundly retarded, multiply handicapped child has merit. This study suggests that mothers can function as co-workers with physical and occupational therapists in extending their efforts to children who need intensive treatment to effect change in the level of their postural reactions, affect, perception, and cognitive schemes." Future study suggestions are noted.

359. Nwosu, Uchenna C.; Wallach, Edward E.; Boggs, Thomas R.; and Bongiovanni, Alfred M.: "Possible Adrenocortical Insufficiency in Postmature Neonates," *American Journal of Obstetrics and Gynecology*, 122:969-974, August 15, 1975.

With methods described, total plasma cortisol was measured in the cord and neonatal blood in the following four groups of patients, and values were compared. Group A (22 patients) contained patients who were vaginally delivered at term (controls). Group B (7 patients) showed signs of fetal distress during labor

and were vaginally delivered at term. Group C (8 patients) were postterm pregnancies and delivered vaginally following signs of fetal distress during labor. Group D (5 patients) were postterm pregnancies with signs of fetal distress during labor severe enough to warrant emergency cesarean section delivery. Much data on these cases are presented in tables. While the mean neonatal plasma cortisol level was found to be 80% higher in Group B than in Group A controls, the mean level in Group C was found to be only 61% of that of Group A, and the mean level of Group D was found to be only 37% of that of Group A. "No differences were observed among the cord plasma cortisol values. These results are strongly suggestive of a relative adrenocortical insufficiency in postmature neonates." Possible reasons for this insufficiency are discussed.

360. Nwosu, Uchenna; Wallach, Edward E.; Boggs, Thomas R.; Nemiroff, Richard L.; and Bongiovanni, Alfred M.: "Possible Role of the Fetal Adrenal Glands in the Etiology of Postmaturity," *American Journal of Obstetrics and Gynecology*, 121: 366-370, February 1, 1975.

Studied regarding plasma cortisol levels in the cord and neonatal blood were 18 postmature infants (A), eight postterm infants without the physical signs of postmaturity (B), and 23 normal term newborns (C). The Group A newborns were found to have significantly lower levels of 8 AM neonatal plasma cortisol than did the infants in Groups B or C. These three groups did not differ significantly in cord blood cortisol levels. Findings are discussed. "Contrary to the traditional belief that postmaturity results from placental aging, our findings appear to indicate that postmaturity represents a specific fetal disorder. Fetal adrenal insufficiency may be a characteristic of this disorder. Prolonged pregnancy in these cases may reflect inability of the affected fetus to initiate labor."

361. Ogden, John A.: "Treatment Positions for Congenital Dysplasia of the Hip," *Journal of Pediatrics*, 86:732-734, May, 1975.

Studies were conducted on fetal and newborn hips to investigate the complication of avascular necrosis and other complications that occur in the treatment of dysplasia of the hip. These hips (28) were obtained from stillborn infants and infants who had died of unrelated causes, and ranged in age from eight fetal months to seven postnatal months. Methods of examination are described. "Gross manipulation showed a tight interlocking of the acetabular labrum into the intertrochanteric notch of the proximal femur in the commonly used treatment positions that emphasized positional extremes. Injection studies corroborated vascular occlusion at three major sites when such positions were maintained. Marked abduction appeared to be the important position to avoid during treatment."

362. Oh, William; Omor, Keiichiro; Emmanouilides, George C.; and Phelps, Dale L.: "Placenta to Lamb Fetus Transfusion in Utero During Acute Hypoxia," *American Journal of Obstetrics and Gynecology*, 122:316-322, June 1, 1975.

In order to assess hemodynamic changes that may occur during acute fetal hypoxia indiced by maternal hypoxia, described experiments were conducted on six pregnant ewes. During the induced fetal hypoxia period, the maternal and fetal arterial blood pressure, the maternal and fetal heart rate, and the placental blood flow were not found to change significantly. There was, however, a significant decrease in the placental blood volume during the hypoxic period, with a reciprocal increase in fetal blood volume. These changes persisted for from 30 to 60 minutes of the recovery period. These and other findings are discussed, and implications are considered. "The clinical implication is that in delivering a fetus who shows signs of intrauterine fetal asphyxia, postnatal placental transfusion (for instance by milking the umbilical cord) should probably be discouraged since a marked increase in neonatal blood volume is in many respects nonbeneficial to the physiologic adaptation during the immediate neonatal life."

363. Olson, E.B., Jr.; Hartline, J.V.; Schneider, J.M.; and Graven, S.N.: "The Use of Amniotic Fluid Bubble Stability, L/S Ratio, and Creatinine Concentration, in the Assessment of Fetal Maturity," *American Journal of Obstetrics and Gynecology*, 122:755-760, July 15, 1975.

The experiences of the authors with these three amniotic fluid tests of fetal maturity and their correlation with fetal outcome are described. Methods of performing the tests and findings with each are explained. The authors "recommend a sequential approach to amniotic fluid analysis. First a bubble stability test (a 'foamy' at both 1:1 and 1:2 dilutions indicates pulmonary maturity). If the bubble stability test is not 'foamy,' an L/S ratio. The risk of RDS associated with creatinine concentration makes this test unacceptable in any case of elective delivery; however, it may be useful as a weighing factor in emergency situations where phospholipid analysis is unavailable."

364. Ong, H.C.: "Maternal and Fetal Outcome Associated with Hemoglobin E Trait and Hemoglobin E Disease," *Obstetrics and Gynecology*, 45:672-674, June, 1974.

Reported in this article are the maternal and fetal outcomes of 20 patients with hemoglobin E trait abnormality and eight patients with hemoglobin E disease during pregnancy (HbE). Findings were compared to normal control patients (HbA). No differences were noted in either fetal wastage or live birth rate. "The mean birthweight of the baby in HbE patients is significantly lower than in HbA patients, but the incidence of prematurity is not significantly increased in HbE patients." There were no congenital fetal abnormalities. "It is concluded that the course of pregnancy in HbE trait abnormality and HbE disease is relatively benign."

365. O'Reilly, D. Elliott: "Care of the Cerebral Palsied: Outcome of the Past and Needs for the Future," *Developmental Medicine and Child Neurology*, 17:141-149, April, 1975.

This paper is the Presidential Address which was delivered at the 28th Annual Meeting of the American Academy for Cerebral Palsy in Denver in November, 1974. Dr. O'Reilly reviews statistics compiled from the records of approximately 1700 cerebral palsied patients seen over a 27 year period at the Cerebral Palsy Clinic in St. Louis, Missouri. Studies revealed that almost 40% of the patients were at home without any productive activity despite all the treatment facilities that were available to them. The question is asked, "What can we do for them?" Needed facilities and programs are described.

366. Osathanondh, Rapin; Driscoll, Shirley G.; and Naftolin, Frederick: "Discordant Severe Cranial Defect in Monozygous Twins," *American Journal of Obstetrics and Gynecology*, 122:301-305, June 1, 1975.

Presented are the cases of three pairs of monozygous male twins, in which one of each pair had exencephaly, anencephaly, or acephaly, while the other of the pair was normal. The possibility of environmental factors playing an etiological role in such cases, and possible explanations for the sparing of one twin are discussed.

367. O'Shea, John S.: "Computer-Assisted Pediatric Diagnosis," *American Journal of Diseases of Children*, 129:199-202, February, 1975.

The MEDITEL system of computer-assisted pediatric diagnosis was tested on 90 children who were hospitalized for systemic illness and who were subsequently discharged with a final diagnosis. A list of the diagnoses is included. MEDITEL order forms were independently completed by a medical secretary and by a pediatrician based on the admission history and test results obtained by the pediatric intern. These two people "were equally successful (78% vs 77%) in having the system list the main final diagnosis when each independently supplied a list of details extracted only from the pediatric intern's admission notes." Findings and their indications are discussed.

368. Osofsky, Howard J.: "Relationships Between Nutrition During Pregnancy and Subsequent Infant and Child Development," *Obstetrical and Gynecological Survey*, 30: 227-241, April, 1975.

In this review article the literature is surveyed "concerning the relationships between quality of nutritional intake during pregnancy and subsequent infant and child development." Both experimental animal studies and human studies are considered. There is a lengthy bibliography.

369. Osofsky, Howard J.: "Relationships Between Prenatal Medical and Nutritional Measures, Pregnancy Outcome, and Early Infant Development in an Urban Poverty Setting. I. The Role of Nutritional Intake," *American Journal of Obstetrics and Gynecology*, 123:682-690, December 1, 1975.

Studied regarding pregnancy, labor, delivery, and early development of their infants were 118 low-income pregnant women who registered at a prenatal clinic in an urban hospital prior to week twenty-eight of pregnancy and 122 comparable women who were provided a protein-mineral dietary supplement as described. Methods of assessment are explained, and results are presented in the following categories: nutritional intake, maternal and infant medical measures, Brazelton assessment measures, demographic measures, and relationships found between maternal nutrition and maternal medical measures, infant medical measures, infant psychological development and demographic measures. Comparison findings between the two patient groups are presented. "In spite of their low-income status, the subjects did not appear nutritionally deprived. Few significant relationships were obtained between maternal nutritional intake and measures of maternal or infant medical status or infant psychological status. A limited number of consistent relationships were obtained when the supplemented and nonsupplemented groups were compared. Although consistent infant medical and psychological benefits were not noted, mothers in the supplemented group developed fewer parameters of pre-eclampsia and had fewer complications during labor and delivery." Findings are discussed.

370. Palmer, Sushma; Thompson, Robert J., Jr.; and Linscheid, Thomas R.: "Applied Behavior Analysis in the Treatment of Childhood Feeding Problems," *Developmental Medicine and Child Neurology*, 17:333-339, June, 1975.

The need for further study and classification of childhood feeding problems is discussed, and the literature is reviewed. The application of applied behavior analysis to the specific feeding problem of prolonged subsistence on puréed foods is then described through the presentation of a detailed case report of a six-year-old handicapped boy. A preliminary classification system for feeding problems and their causes is suggested.

371. Parfit, Jessie: "Siblings of Handicapped Children," *Special Education: Future Trends*, 2:19-21, March, 1975.

The author believes the siblings of handicapped children have three needs: the need for information, the need for emotional help, and the need for education. "These of course exactly replicate the needs of the parents." Each of these needs is discussed, and ways of meeting these needs are listed. An American experimental study in this area is summarized.

372. Parke, Wesley W.: *Photographic Atlas of Fetal Anatomy*. Baltimore: University Park Press, 1975. 435 pp.

Fetal anatomy is described and pictured through the text and photographs contained in this volume. Considered in separate sections of the book are overviews of the fetus with venous and arterial circulation, the upper extremity, the lower extremity, the thorax, the abdomen and posterior abdominal wall, the pelvis, and the head and neck. There is an index.

373. Paul, Richard H.; Suidan, Aida Khazin; Yeh, Sze-Ya; Schifrin, Barry S.; and Hon, Edward H.: "Clinical Fetal Monitoring. VII. The Evaluation and Significance of Intrapartum Baseline FHR Variability," *American Journal of Obstetrics and Gynecology*, 123:206-210, September 15, 1975.

The significance of the presence of FHR variability is discussed. In this study FHR variability in the 20 minutes prior to delivery was evaluated to determine its value in predicting newborn condition as assessed by Apgar score. Findings indicated that "the presence of FHR variability appears to be a favorable commentary regarding both fetal and newborn status. A clinical method of appraising FHR is presented and the significance of FHR variability suggested."

374. Pelosi, Marco A.; Frattarola, Michael; Apuzzio, Joseph; Langer, Alvin; Hung, Cheng T.; Oleske, James M.; Bai, Jameela; and Harrigan, John T.: "Pregnancy Complicated by Heroin Addiction," *Obstetrics and Gynecology*, 45:512-515, May. 1975.

Findings are reported regarding a group of 118 heroin-addicted women who gave birth to viable infants in a New Jersey hospital over a five-year period. The data presented indicated "these patients were subject to an increased incidence

of complicating medical problems as well as many obstetric problems leading to maternal or fetal risk." Sixty-four infants were treated for withdrawal symptoms. "A baby born to an addicted mother has an increased risk of dying either in utero or during the first 28 days of life, as well as increased risk of intrauterine growth retardation, prematurity, and postmaturity."

375. "Perinatal Research," *British Medical Journal*, 2:236-237, May 3, 1975.

Recent trends and future directions in perinatal research are briefly discussed.

376. Perlman, M., and Dvilansky, A.: "Blood Coagulation Status of Small-For-Dates and Postmature Infants," *Archives of Disease in Childhood*, 50:424-430, June, 1975.

In order to determine blood coagulation status, blood samples were obtained at a mean age of 26 hours from three groups of infants: normal controls, small-for-dates infants, and postmature infants. These groups and other terms are defined. Procedures and results are described. "Abnormal coagulation findings correlated with the degree of growth retardation and with the degree of postmaturity. Macroscopical placental infarction and neonatal polycythaemia were associated with coagulation abnormalities; asphyxia, however, was not. Intravascular coagulation may be an additional hazard to small-for-dates and postmature infants."

377. Perry, Jacquelin; Hoffer, M. Mark; Giovan, Peter; Antonelli, Daniel; and Greenberg, Ron: "Gait Analysis of the Triceps Surae in Cerebral Palsy," *Journal of Bone and Joint Surgery*, 56-A:511-520, April, 1974.

A group of 17 cerebral palsied patients, ages four to 18 years, participated in this reported pre- and postoperative clinical and electromyographic study. Methods used in this study, operative and postoperative management of these patients, and the results of clinical and electromyographic tests are presented. "Preoperative static clinical evaluation of the spastic triceps surae often fails to indicate which of the two muscles (soleus or gastrocnemius) is the more distorted in its phasic activity during walking or in response to stretch. Gait electromyography is a method of distinguishing gastrocnemius from soleus problems. We customarily perform electromyographic studies prior to surgery. If isolated gastrocnemius phase distortion or clonus, or both, is found, a gastrocnemius recession is performed. When combined soleus and gastrocnemius problems are noted an Achilles-tendon lengthening is done."

378. Pettifor, J.M., and Benson, R.: "Congenital Malformations Associated with the Administration of Oral Anticoagulants During Pregnancy," *Journal of Pediatrics*, 86:459-462, March, 1975.

Three case reports are presented of infants whose mothers had received oral anticoagulant therapy during the first trimester of pregnancy. All three "had hypoplasia of the nasal bones, and two had stippling of epiphyses and bones and deformities of the bones of the hand. One child is mentally retarded."

379. Phillpot, Rosemary E.: "Headstick Helmet for Cerebral-Palsied Children," *American Journal of Occupational Therapy*, 29:291-292, May/June, 1975.

The materials needed and the steps in constructing such a device are described. The helmet has been beneficial for use in communication, academic endeavors, and recreational activities of severely involved cerebral palsied children. A picture of the helmet in use is shown.

380. Pierrot, Alan H., and Murphy, Owen B.: "Heel Cord Advancement: A New Approach to the Spastic Equinus Deformity," *Orthopedic Clinics of North America*, 5:117-126, January, 1974.

The literature is reviewed, and the theoretical basis for heel cord advancement as a surgical approach to the treatment of the spastic equinus deformity is illustrated. In order to determine the efficacy of this approach a study was conducted in which 23 children who had heel cord advancements and 18 children who had tendo Achillis lengthening were compared at follow-up, a minimum of three and one half years after the operations. Patients were examined and placed in one of three defined categories: excellent, good, or fair. The heel cord advancement technique is described. Findings of the study indicated that "the results of heel cord advancement are at least as good as those achieved with tendo Achillis lengthening." "The operation is especially suited to the growing child, since it obviates the need for postoperative bracing, in contrast to tendo Achillis lengthening in which postoperative bracing during the growth years is necessary to prevent recurrent deformity."

381. Pildes, Rosita S.; Cornblath, Marvin; Warren, Irvina; Page-El, Edward; di Menza, Salvatore; Merritt, Doris M.; and Peeva, Antonia: "A Prospective Controlled Study of Neonatal Hypoglycemia," *Pediatrics*, 54:5-14, July, 1974.

In this described seven-year follow up study, the physical, neurological, and intellectual development of 39 infants who had been treated for hypoglycemia at age one to four days was studied and compared to that of 41 matched, high-risk, normoglycemic controls. Assessment methods are explained, and comparison findings are presented for the neonatal period and for the long-term follow-up period. No significant EEG differences were noted between the two groups although there was a high incidence of EEG abnormalities seen in both groups (43% in the hypoglycemic and 32% in the controls). There was a higher incidence of neurological abnormality in the hypoglycemic group with the differences being significant at ages two, three, and six years. However, in only three of the 30 children seen for at least four years, could the neurological handicaps be attributed solely to the hypoglycemia. Although there was no significant differences in IQ scores between the two groups, a significantly greater number of the hypoglycemic group had IQs below 86 at ages five to seven years. These and other findings and their implications are discussed.

382. Pippenger, Charles E., and Rosen, Tove S.: "Phenobarbital Plasma Levels in Neonates," *Clinics in Perinatology*, 2:111-115, March, 1975.

The literature is reviewed, and it is noted that "to our knowledge no studies have been reported establishing the serum concentration necessary to control

neonatal seizures or the daily maintenance dose necessary to maintain a steady state concentration." A study is reported in which 13 neonates, being treated with phenobarbital as described for either seizures or withdrawal symptoms, were studied regarding the relationship between the dosage of phenobarbital given and the serum concentration of phenobarbital found in these infants. Data for each infant are presented. Findings indicate there to be a wide variation in the utilization of phenobarbital in these infants. Several factors of importance when phenobarbital is administered in such cases are listed. "In order to rapidly achieve therapeutic levels, it is suggested that a loading dose of 8 to 10 mg per kg be administered for 2 days followed by reduction of dosage to a maintenance level of 5 to 6 mg per kg with frequent monitoring of plasma phenobarbital concentrations. The optimal plasma concentration of phenobarbital for control of neonatal seizures or withdrawal symtoms appeared to be between 15 to 30 μ per ml."

383. Pleasure, Jeanette R., and Blackburn, Michael G.: "Neonatal Bromide Intoxication: Prenatal Ingestion of a Large Quantity of Bromides with Transplacental Accumulation in the Fetus," *Pediatrics*, 55:503-506, April, 1975.

A case report is presented of a woman, 34 weeks pregnant and admitted to the hospital in a semicomatose state, who five days later gave birth to an infant with CNS depression. Bromide intoxication was confirmed in both mother and infant. "It is suggested that the drug history obtained from the pregnant woman include nonprescription medications containing bromides. This possibility should also be included in the differential diagnosis in infants exhibiting evidence of CNS depression, particularly those born to mothers classified as neurotic or psychotic." "Manifestations of chronic bromide intoxication" are listed in a table.

384. Plotkin, Stanley A.: "Routes of Fetal Infection and Mechanisms of Fetal Damage," *American Journal of Diseases of Children*, 129:444-449, April, 1975.

These mechanisms which cause fetal damage are considered at the possible five points at which the fetus could be affected. These stages are the unfertilized egg, the fertilized egg or blastocyst, infection of the fetus by uterine endometrial disease, infection across or through the placenta, and ascending infection at parturition including the amniotic infection syndrome and infection by pathogenic organisms at birth. In a table are listed the agents of infection that are transmitted by the transplacental route. These include bacteria, fungi, protozoa, and viruses.

385. Podeanu-Czehofsky, Ilinca: "Is It Only the Child's Guilt? Some Aspects of Family Life of Cerebral Palsied Children," *Rehabilitation Literature*, 36:308-311, October, 1975.

The literature is reviewed, and a study is presented in which 65 cerebral palsied children were investigated regarding their relations with their families and peers. The study was conducted in a hospital in which these children were treated. Methods and results are presented, two case histories are included, and five conclusions of the study are listed. "1. Children with cerebral palsy have many psychological problems similar to those of physically normal children.

2. Psychopathological features seen in cerebral palsied children are partly determined by their peculiar personality and partly by the special problems their mere presence induces in the family life. 3. Unfortunately the special psychological problems of these children are not taken into account enough, their families considering it not only important but also sufficient just to improve walking or handling, and so on. 4. Physically handicapped children achieve self-assurance through meeting the many difficulties created by their peers and age-mates who are more or less hostile. 5. Physical rehabilitation of children with cerebral palsy is of undeniable importance, but we must not neglect the psychiatric assistance these children need. Although the physical handicap may overshadow the psychological needs, that does not mean they do not exist."

386. Poonai, A.P.V.; Tang, K.; and Poonai, P.V.: "Relation Between Glucose, Insulin, and Growth Hormone in the Fetus During Labor and at Delivery," *Obstetrics and Gynecology*, 45:155-158, February, 1975.

With methods described, maternal, fetal, and umbilical blood glucose, insulin, and human growth hormone (HGH) values were obtained during labor and at delivery in a group of obstetric patients in Jamaica. All had normal pregnancies. Correlations were determined and are reported. "There was a positive correlation between fetal glucose and HGH, as well as between the fetal insulin and HGH values. Higher birthweights were associated with lower umbilical venous HGH and higher insulin levels. Thus, the balance between insulin and growth hormone might be involved in the regulation of fetal growth."

387. Potter, Edith Louise, and Craig, John M.: *Pathology of the Fetus and the Infant.* Third Edition. Chicago: Year Book Medical Publishers, 1975. 697 pp.

In the 28 chapters of this volume the authors discuss the development and growth of the fetus and placenta, abortion, anoxia, birth trauma, infections, malformations, and tumors. Causes of fetal and infant death and the postmortem examination are also considered, as are inborn errors of metabolism and multiple pregnancies. Various body organs are considered in individual chapters including those on the central nervous system, the skeleton, and the skeletal muscles and joints. There are many illustrations, reference lists, and a subject index.

388. Poulton, Margaret: "Walking Aid for Young Paraplegics," *Physiotherapy*, 61:275, September, 1975.

Such an aid is described and pictured. It is designed to be used with very young children with spina bifida or other paraplegic children. The device was developed from a pair of joined elbow crutches having both front and back outriggers. Eight advantages are listed, which include the adaptability of the crutches, their low cost, their durability, and their ability to permit an early start for ambulation.

389. Prod'hom, L.S.; Choffat, J.-M.; Frenck, N.; Mazoumi, M.; Relier, J.-P.; and Torrado, A.: "Care of the Seriously Ill Neonate with Hyaline Membrane Disease and with Sepsis (Sclerema Neonatorum)," *Pediatrics*, 53:170-181, February, 1974.

Reported is the treatment and its results in 595 infants with hyaline membrane disease (HMD) seen in a regional neonatal intensive care unit in Switzerland between 1966 and 1972. The survival rate was found to increase from 46% between 1966 to 1968 to 68% between 1971 to 1972. Survival rate statistics are presented in relation to the gestational age of the infants, the presence of neonatal asphyxia, the sex ratio, the severity of the HMD, and the use of mechanical ventilation. Also considered was the time of death in the nonsurvivors, the causes of death, and the quality of life in the survivors. "Among the 355 survivors, the overall frequency of late somatic and neurological sequellae has been found to be 6.5%....It seems justified to stop all reanimation practices in the presence of a ventricular hemorrhage, since this neonatal complication has led always to severe brain damage in the survivors." The condition of septicemia associated with sclerema neonatorum and its therapy are also considered.

390. Purpura, Dominick P., and Reaser, Georgia Perkins, eds.: *Methodological Approaches to the Study of Brain Maturation and Its Abnormalities*. Baltimore: University Park Press, 1974. 155 pp.

This volume contains the report of a Symposium held in May, 1971 and co-sponsored by the Rose F. Kennedy Center for Research in Mental Retardation and Human Development, Albert Einstein College of Medicine, Yeshiva University; and the Mental Retardation Program of the National Institute of Child Health and Human Development, National Institutes of Health, United States Public Health Service. Contributions are presented in four sections: "Studies of Simple Neuronal Systems," "Neurochemistry of Brain Maturation," "Morphophysiological Studies of Brain Maturation," and "Development of Cognitive Functions." There are a bibliography and an index.

391. Quilligan, Edward J., and Paul, Richard H.: "Fetal Monitoring: Is It Worth It?" *Obstetrics and Gynecology*, 45:96-100, January, 1975.

In this editorial the authors consider the incidence in the United States of intrapartum fetal death and neurologically damaged infants. Also described are the observed results of fetal monitoring. Then, "based on the assumption that continuous fetal heart rate monitoring during labor can reduce perinatal mortality and morbidity by 50%, a cost analysis is constructed. The cost for total monitoring of 3000 deliveries per year is compared with the potential savings due to prevention of one-half of the mental retardation that would develop from the same group were they not monitored." Benefits are described.

392. Raethel, H.A.: "Wavelengths of Light Producing Photodecomposition of Bilirubin in Serum from a Neonate with Hyperbilirubinemia," *Journal of Pediatrics*, 87:110-114, July, 1975.

The literature is reviewed, and an in vitro study was conducted "of the efficiencies of photodecomposition of bilirubin in serum from a neonate with hemolytic anemia at different wavelengths ranging between 360 and 600 nm." Detailed methods, results, and conclusions are presented among which was that "useful visable wavelengths are confined to a relatively narrow band approximately 100 nm wide, centered around 460 nm."

393. Rahbar, Fariborz: "Observations on Methadone Withdrawal in 16 Neonates," *Clinical Pediatrics*, 14:359-371, April, 1975.

A group of 30 neonates born to drug addicted mothers were studied. Of these 30, 14 were born to mothers using heroin, and 16 were born to mothers who were on methadone maintenance. These two groups of infants were compared with regard to a number of factors, and observations are reported. Findings are also discussed in relation to findings from other studies.

394. Räihä, Niels C.R.: "Biochemical Basis for Nutritional Management of Preterm Infants," *Pediatrics*, 53:147-156, February, 1974.

The rapid rate of brain growth that occurs in surviving small premature infants is noted as is the damage to the brain that may occur if "nutritional deficiencies and alterations in the metabolic homeostasis" are present in these infants. Studies are reviewed that indicate the inability of the fetus and premature infant to synthesize the amino acid, cystine, and to metabolize the amino acid, tyrosine. On the basis of these previous studies, the author and others have undertaken a described nutritional study in well, small preterm infants. Another approach is also considered, that of increasing fetal enzyme activity, and thus accelerating fetal biochemical development, by stimulating fetal tissues with externally administered agents.

395. Rálišˇ, Z.A.: "Birth Trauma to Muscles in Babies Born by Breech Delivery and Its Possible Fetal Consequences," *Archives of Disease in Childhood*, 50:4-13, January, 1975.

Compared are the results from a study in which the muscles of 86 infants who died after breech delivery and 38 infants who died after vertex presentation were dissected and histologically examined. These findings were also compared to the clinical examination results from 50 infants who survived breech delivery. Findings from the post-mortem examinations of 86 breech-delivered infants are presented in detail. "It was concluded that the most common type of birth trauma to a baby born by breech delivery is injury to muscles and soft tissues of the back and lower extremities, which is often extensive. In some severely injured babies histological examination of organs reveals signs of crush syndrome and disseminated intravascular coagulation. It is suggested that the extensive muscle trauma forms the background of these fatal conditions."

396. Rálišš, Z.A.: "Traumatizing Effect of Breech Delivery on Infants with Spina Bifida," *Journal of Pediatrics*, 87:613-616, October, 1975.

Pathological studies were conducted in 64 babies with spina bifida who died at ages ranging from ten minutes to three months. Of these 64 infants, 49 had been born by normal delivery and 15 by breech delivery. Special described studies were done on eight of the 15 infants who were breech-born. Results are presented regarding the muscle and nerve damage revealed and the changes seen in organs. Breech delivery was found to cause "frequent and often severe trauma to the already handicapped muscles and nerves of the lower extremities. In cases where the birth damage is extensive, the baby's chances of survival may be reduced. The possibility should be considered that this type of labor, which traumatizes the baby's muscles and nerves, may influence the postnatal locomotor function and further contribute to the child's disability."

397. Ramey, Craig T.; Mills, Pamela; Campbell, Frances A.; and O'Brien, Carolyn: "Infants' Home Environments: A Comparison of High-Risk Families and Families from the General Population," *American Journal of Mental Deficiency*, 80:40-42, July, 1975.

The Home Observation for Measurement of the Environment was used as the instrument to compare the home stimulation available in the environments of 30 infants thought to be at high risk of developmental retardation and 30 matched infants from the general population. Results of comparing the two groups on a number of selected characteristics are presented in a chart. Direct observation and interviewing were necessary to score the 43 items on the inventory. Of the 30 at-risk infants, 15 attended a day care intervention program while the other 15 did not. "The Home Observation for Measurement of the Environment showed significant differences (ps < .001) between the high-risk groups and the general population, favoring the general population, on all factors (maternal warmth, absence of restriction and punishment, organization of the environment, appropriate toys, maternal involvement, and opportunities for variety) but none between the two high-risk groups."

398. Rapin, Isabelle: "Hypoactive Labyrinths and Motor Development," *Clinical Pediatrics*, 13:922-923+, November, 1974.

Case reports are presented of two sisters who were congenitally deaf with vestibular dysfunction and who displayed a delay in walking. Examination revealed no neurologic cause for this delay. "These clinical observations are felt to justify the hypothesis that vestibular dysfunction in infancy may lead to delayed achievement of gross motor milestones." A survey was then conducted of the records of 353 children who had undergone electronystagmographic (ENG) vestibular tests. Results are explained. "Forty-nine children had hypoactive labyrinths. The records of 22 of these were suitable for surveying the relation of the vestibular dysfunction to age at walking. Ten of the 22 children walked at 18 months or later indicating that some, but not all children with vestibular dysfunction will be late walkers. Some of the children who walked at a normal age were described as having 'weak necks' or 'floppy heads,' and some sat late. Accordingly, counseling of parents of deaf children who walk late should be delayed until vestibular testing has been carried out to avoid false diagnoses of associated brain damage or mental retardation." Further comments are made, and the literature is reviewed.

399. Reimer, Donna C.; Eaves, Linda C.; Richards, Ronni; and Crichton, John U.: "Name-Printing as a Test of Developmental Maturity," *Developmental Medicine and Child Neurology*, 17:486-492, August, 1975.

The advantages of name-printing as a clinical test are considered, the literature is reviewed, and a study is presented in which an attempt is made to develop a scoring technique for name-printing using a sample of 2,471 children ages five and one half to six and one half years. Testing and scoring methods are described. Test results on the Print-Your-Name test were compared to results on other established developmental assessment tests and with teacher appraisals. Findings indicated "that the Print-Your-Name test may be useful as a quick, simple measure to aid in developmental assessment."

400. Rementeria, Jose Luis; Janakammal, S.; and Hollander, Melvin: "Multiple Births in Drug-Addicted Women," *American Journal of Obstetrics and Gynecology*, 122:958-960, August 15, 1975.

A group of 126 pregnant drug addicts were studied. In this series of women, two sets of twins and two sets of triplets were delivered. This multiple birth incidence was three times as frequent as that found in the general population. Of these four multiple births, three were dizygotic and one was monozygotic. Other characteristics of these four cases are described, and "mechanisms are presented to help explain why narcotics may cause supraovulation and multiple births."

401. Reynolds, R.J.S.: "Paediatric Physiotherapy in the Past 25 Years," *Physiotherapy*, 61:106-108, April, 1975.

Changes seen by the author in pediatric physiotherapy are described with each specialty considered individually. Specific areas discussed include orthopedic pediatrics, medical pediatrics, mental subnormality, pediatric anesthesia, pediatric surgery, pediatric assessment techniques, and parent counselling.

402. Ringler, Norma M.; Kennell, John H.; Jarvella, Robert; Navojosky, Billie J.; and Klaus, Marshall H.: "Mother-to-Child Speech at 2 Years - Effects of Early Postnatal Contact," *Journal of Pediatrics*, 86:141-144, January, 1975.

Presented is the third in a series of observations made on two described groups of mothers and their children, who were two years of age at the time of this observation. One group of five mother-child pairs had had described routine contact during the first three days after birth, while the other group of five mother-child pairs had had described extended contact during the three days after birth. Both groups of five were randomly selected from larger original groups. The two selected groups were compared as to the speech behavior of the mothers when they addressed their two-year-old children in an informal play setting. "Speech patterns of the mothers revealed that those who had been given extra contact with their infants during the neonatal period used significantly more questions, adjectives, words per preposition, and fewer commands and content words than did the control mothers. These observations suggest that the linguistic behavior of the young child may be shaped by hospital-care practices for mother and her infant." These observations and those made previously in this series are discussed.

403. Rivinus, T.M.; Jamison, D.L.; and Graham, P.J.: "Childhood Organic Neurological Disease Presenting as Psychiatric Disorder," *Archives of Disease in Childhood*, 50:115-119, February, 1975.

Data is reported and discussed on 12 children seen over a one year period who were found to have neurological disorders but whose complaints had been previously thought to be due to psychiatric disorders. It is hoped that this article would reduce similar diagnostic errors in the future and also point out rare neurological disorders that may be overlooked in the diagnostic process.

404. Robards, M.F.; Thomas, G.G.; and Rosenbloom, L.: "Survival of Infants with Unoperated Myeloceles," *British Medical Journal*, 4:12-13, October 4, 1975.

The concept of selecting infants with spina bifida for early closure is discussed. A survey was conducted of children referred to a neonatal surgical unit with spina bifida over a three year period (1972-1974). Experiences during each of these years are described. Of the infants "denied early closure of the myelocele, a significant proportion survived long enough for procedures to drain hydrocephalus to be needed." The findings from the study indicate "that early closure of a myelocele is not a life-saving procedure and that denial of early closure is not synonymous with early death. Rather than myelocele closure being the key to potential survival it is the drainage of hydrocephalus that is the critical procedure determining survival."

405. Roberton, N.R.C., and Smith, M.A.: "Early Neonatal Hypocalcaemia," *Archives of Disease in Childhood*, 50:604-609, August, 1975.

Two occasions when hypocalcemia is often found in the neonatal period are considered. Over a two-year-study period involving 8,700 deliveries, 131 ill newborns were investigated for hypocalcemia as described, and 51 of these infants were found to have early neonatal hypocalcemia. Findings are presented regarding the cause of hypocalcemia in these cases and the symptoms, including jitteriness and irritability, apnea, convulsions, and persistent ductus arteriosus.

406. Roberton, N.R.C., and Tizard, J.P.M.: "Prognosis for Infants with Idiopathic Respiratory Distress Syndrome," *British Medical Journal*, 3:271-274, August 2, 1975.

Reviewed were all cases of infants having idiopathic respiratory distress syndrome who were admitted to an intensive care unit between January 1, 1972 and September 30, 1974. The care of the infants is briefly described, including the administration of hyperoxia tests. Much data are presented. "The overall mortality rate for infants whose birth weight was 1000 g or more was under 10%, and for those who established spontaneous respiration after birth it was less than 5%. The hyperoxia test was not a useful guide to prognosis. It was possible on the basis of the infants' ability to establish spontaneous ventilation after birth to divide them into two groups. In those who established adequate ventilation the mortality rate was 4.5%; in those who did not it was 57%. This test should be generally applied, since not only does it give an immediate guide to the severity of the disease, which is better than that provided by birth weight gestational age, or the hyperoxia test, but it may be applied to infants

born in and outside a hospital providing neonatal intensive care. Improvement in the outlook for infants with a bad prognosis will be achieved only by improvements in perinatal care designed to minimize severe intrapartum asphyxia in infants of low birth weight."

407. Roberts, Kenneth B., and Freeman, John M.: "Cerebellar Ataxia and 'Occult Neuroblastoma' Without Opsoclonus," *Pediatrics*, 56:464-465, September, 1975.

A case report is presented and discussed of a three year old child in whom cerebellar ataxia in the absence of opsoclonus was found to be associated with occult neuroblastoma. "We would suggest that neuroblastoma be considered in any child with unexplained or atypical cerebellar signs - with or without opsoclonus - and that, in addition to a thorough physical examination, roentgenograms of the chest and abdomen be obtained."

408. Roden, Vernon J.; Cantor, Harvey E.; O'Connor, Dennis M.; Schmidt, Rose Rita; and Cherry, James D.: "Acute Hemiplegia of Childhood Associated with Coxsackie A9 Viral Infection," *Journal of Pediatrics*, 86:56-58, January, 1975.

Presented and discussed is the case of a child age 16 months, with acute hemiplegia associated with Coxsackie A9 viral infection. Virologic and serologic results are included. "It is suggested that the present hemiplegia may have been the result of a focal vasculitis due to Coxsackie A9 viral infection in the region of the right middle cerebral artery."

409. Romagnoli, C.; Polidori, G.; Foschini, M.; Cataldi, L.; DeTurris, P.; Tortorolo, G.; and Mastrangelo, R.: "Agar in the Management of Hyperbilirubinaemia in the Premature Baby," *Archives of Disease in Childhood*, 50:202-204, March, 1975.

In order to study the effectiveness of agar in controlling neonatal hyperbilirubinemia in premature infants, randomly assigned low birthweight infants were given oral agar while control low birthweight infants received no agar. Methods of treatment are described. Although no complications were noted with the administration of agar, this treatment did not lower serum bilirubin levels significantly. "We conclude that agar supplemented feeding is not indicated in the management of hyperbilirubinaemia in low birthweight newborn infants."

410. Rosenthal, Robert K.; Deutsch, Stephan D.; Miller, William; Schumann, William; and Hall, John E.: "A Fixed-Ankle, Below the Knee Orthosis for the Management of Genu Recurvatum in Spastic Cerebral Palsy," *Journal of Bone and Joint Surgery*, 57-A:545-547, June, 1975.

This orthosis is described and pictured. It is "designed to maintain the ankle in 5 degrees of dorsiflexion and correct any foot deformity." Results of its usage on 18 extremities of 12 children, ages two to 11 years, with spastic cerebral palsy are presented. "After an average follow-up of twenty-six months, the recurvatum was well controlled and gait was improved."

411. Rothner, A. David; Keim, Hugo; and Chutorian, Abe M.: "Occult Neuromuscular Disease in 100 Consecutive Patients with Scoliosis," *Journal of Pediatrics*, 748-750, May, 1975.

Detailed histories were obtained and neurologic and orthopedic examinations were given these 100 children. On the basis of the findings the children were classified into four groups. Group I contained 72 patients comprising the idiopathic group. "No cause could be found for their curvatures....Forty-one percent of the patients had a family history of scoliosis." Group II contained nine patients comprising the congenital group. Group III contained seven patients comprising the group with occult neuromuscular disease. "Their scoliosis is presumed to be secondary to their neuromuscular disease." Their diagnoses are described. Group IV contained 12 children comprising the miscellaneous group. Groups II, III, and IV were compared to Group I with regard to operative complications. "Children with nonidiopathic scoliosis had a significant increase in operative complications." "It was concluded that all patients with scoliosis require careful neurologic evaluation. Associated anomalies and neurologic disorders must be identified early in order to (1) plan appropriate therapy, (2) offer genetic counseling when indicated, (3) establish if progression of neurologic impairment is to be anticipated, and (4) identify those patients for whom risk of operative complications is increased."

412. Roversi, G.D.; Canussio, V.; and Spennacchio, M.: "Recognition and Significance of Maternogenic Fetal Acidosis During Intensive Monitoring of Labor," *Journal of Perinatal Medicine*, 3:53-67, 1975.

Followed during labor by monitoring of the fetal heart rate (FHR) and by microanalysis of fetal blood were 59 normal cases and 335 at risk cases. Methods are described. "The major difficulty in obtaining a precise value for the fetal acid-base balance lies in the occurence of 'falsely abnormal' cases, i.e. cases in which the fetal pH falls during labor but the clinical condition at birth is good (Apgar $\geq$ 7)." There was an 11.2% incidence of such cases in this at risk group. "In the majority of these cases the fetal acidosis is thought to be a result of increased metabolic acidosis in the mother (maternogenic fetal metabolic acidosis). The importance of the maternogenic fetal acidosis during labor lies in the fact that unless it is recognised, rapid extraction of the fetus will appear necessary on clinical grounds, although it is in fact unnecessary, since this form of acidosis has no adverse effect on the fetus." Methods for the diagnosis of maternogenic fetal acidosis are then described and studied, and conclusions as to the best method are presented. "The safest of the various parameters suggested so far appears to be the M/F ΔBD_{Hb5} [Maternal/Fetal ΔBase Deficit$_{Hb5}$]. The most obvious clinical result of using this instead of the other parameters is the marked decrease in the number or erroneously diagnosed cases of fetal distress, particularly during the final stage of labor, and hence in the number of operative interventions."

413. Rozin, Raphael; Danziger, Reuven; and Danziger, Uai: "Wheelchair Modifications for Easy Transfer," *Archives of Physical Medicine and Rehabilitation*, 56:369-370, August, 1975.

Such modifications are pictured and described. They enable the wheel on the side of the chair most used for transfer to be easily moved backwards with

handles, leaving this side of the chair completely clear. Also shown is a sliding board made from the arm rest and attached to the transfer side of the chair by hinges. Those patients particularly benefitting from this modified wheelchair are listed.

414. Rush, David: "Maternal Nutrition During Pregnancy in Industrialized Societies," *American Journal of Diseases of Children*, 129:430-434, April, 1975.

Mention is made of a double-blind, controlled study conducted by the author and others on the effects of "protein and calorie supplementation during pregnancy in a poor, urban, black, North American population." The evaluation of maternal nutrition is considered as are maternal weight, weight gain, and antropometry in pregnancy. Future needs are discussed, and many research studies are reported. It is concluded that "techniques for assessment of maternal nutritional status are highly unsatisfactory," and that "both physiologic and epidemiological evidence suggests that energy is the most common nutrient limiting fetal growth."

415. Ryan, George M., Jr.: "Toward Improving the Outcome of Pregnancy: Recommendations for the Regional Development of Perinatal Health Services," *Obstetrics and Gynecology*, 46:375-384, October, 1975.

Such recommendations are presented. They were developed by the Committee on Perinatal Health which is composed of representatives from the American Academy of Pediatrics, American College of Obstetricians and Gynecologists, and the American Medical Association. Aspects of a regional perinatal care system that are included within these guidelines are the facilities, services, personnel, coordination, communication, preparatory and continuing education, consultation, referral, and financing.

416. St. Geme, Joseph W., Jr.; Bailey, S. Rush; Koopman, James S.; Oh, William; Hobel, Calvin J.; and Imagawa, David T.: "Neonatal Risk Following Late Gestational Genital Herpesvirus Hominis Infection," *American Journal of Diseases of Children*, 129:342-343, March, 1975.

Reviewed were five cases in which women with genital herpesvirus hominis (herpes simplex virus) infection beyond 32 weeks of gestation delivered their infants vaginally. In two of these women fresh vesicular lesions were present at delivery. The condition of the children was reevaluated at from two months to four years of age. No sequalae were noted. These findings are discussed as are possible courses of management in such cases.

417. Salvadori, B., ed.: *Therapy of Feto-Placental Insufficiency*. New York: Springer-Verlag, 1975. 354 pp.

This volume contains the proceedings of the First International Symposium on the Therapy of Feto-Placental Insufficiency, held in Parma, Italy in May, 1973. A total of 70 papers were presented in the three sessions of the Symposium. There are many graphs and illustrations, reference lists and a subject index.

418. Samilson, Robert L., ed.: *Orthopedic Aspects of Cerebral Palsy*. London: Heinemann Medical Books; Philadelphia: Lippincott, 1975. 301 pp. (Clinics in Developmental Medicine, Number 52-53.)

The interdisciplinary approach to the care of cerebral palsied patients is stressed in this volume composed of fourteen chapters written by seventeen contributors. Aspects considered in separate chapters include the historical factors, differential diagnosis, the pediatric role in the care of the cerebral palsied child, orthopedic assessment and the gait in cerebral palsy, non-operative aspects of management and the role of the physiotherapist in treatment, and the pre- and post-operative management of the cerebral palsied patient. Individual chapters also are devoted to specific anatomical areas in the cerebral palsied, including spinal and pelvic deformities, the hip, the knee, the foot and ankle, and the upper extremity. Problems and complications in orthopedic management, assessing surgical results, and future prospects are the topics discussed in the final three chapters. Bibliographies follow each chapter, and there is a subject and an author index.

419. Santos-Ramos, Rigoberto, and Duenhoelter, Johann H.: "Diagnosis of Congenital Fetal Abnormalities by Sonography," *Obstetrics and Gynecology*, 45:279-283, March, 1975.

Data on 13 cases of pregnant women who underwent sonographic examination and whose fetuses had major congenital malformations are presented to "demonstrate the usefulness of sonography in the diagnosis of fetal abnormalities." These cases were in three groups: Group I contained four fetuses with anencephaly; Group II, four fetuses with hydrocephaly; Group III, five fetuses with other described malformations. "Sonography was valuable a) in the detection of discrepant growth between fetal chest and head and b) in the recognition of fetal soft tissue abnormalities. It is concluded that sonography is a valuable aid in the diagnosis of congenital fetal anomalies." "At the present time,

radiography is indispensable if one has to diagnose anencephaly or marked hydrocephaly rapidly. Sonography is helpful to modify, specify, and expand the radiologic and clinical diagnosis. In a fetus with a soft tissue tumor, sonography may be the simplest method to evaluate the outline and contents of the mass."

420. Schifrin, Barry S.; Lapidus, Marilyn; Doctor, Geeti S.; and Leviton, Alan: "Contraction Stress Test for Antepartum Fetal Evaluation," *Obstetrics and Gynecology*, 45:433-438, April, 1975.

With the technic described the contraction stress test (CST) was administered 189 times to 120 high-risk obstetric patients. The classification of results, the measures of outcome, and the analysis of data are also explained. Of the 120 patients, the test results were persistently negative in 101, positive in nine, and equivocal in ten. Outcome and details are presented. "It is our conclusion that the CST is a safe and predictive test of respiratory function of the placenta in high-risk pregnancy. A negative test appears to be a most reliable guide to the ability of the individual fetus to tolerate labor if it ensues within 1 week. A positive test suggests that the fetus is at increased risk of death, but this danger is not necessarily imminent. The results of the present study warrant widespread utilization of the CST in controlled studies to determine its effect in improving perinatal outcome."

421. Schirar, A.; Vielh, J.P.; Alcindor, L.G.; and Gautray, J.P.: "Amniotic Fluid Phospholipids and Fatty Acids in Normal Pregnancies," *American Journal of Obstetrics and Gynecology*, 121:653-663, March 1, 1975.

Phospholipids, lecithin, and sphingomyelin levels were determined in 373 samples of amniotic fluid from 305 normal pregnancies to assess gestational age and fetal pulmonary status. Results of these determinations were "compared with those of other investigators and discussed, as they do not precisely evaluate gestational age and may be unreliable for prediction of neonatal respiratory status." Fatty acids were determined as described by gas-liquid chromatography in 201 amniotic fluid samples from 156 patients. Findings are presented and discussed. They indicate the palmitic acid/stearic acid ratio (P/S) to be a reliable index of both gestational age and fetal pulmonary status.

422. Schlensker, Karl-Heinz: *Atlas of Ultrasonic Diagnosis in Obstetrics and Gynecology*. Stuttgart, Germany: Thieme-Edition. Publishing Sciences Group, 1975. 158 pp.

This book contains 359 illustrations in six chapters. The subject is introduced, normal gynecologic findings are described, and gynecologic tumors are considered in the first three chapters, respectively. Normal early pregnancy and abnormalities in early pregnancy are the subjects of Chapters 4 and 5. The author then spends considerable time in Chapter 6 with discussing and illustrating late pregnancy and abnormalities seen in late pregnancy. There are 18 pages of references and an index.

423. Schmid, J.: "Maternal and Fetal Plasma Levels of Free Corticosteroids in Pathological Deliveries," *Journal of Perinatal Medicine*, 3:276-284, 1975.

In order to study the effect of the fetal adrenal gland, the concentration of free corticosteroids (CS) and the pH were determined during 41 pathological deliveries as described. Findings are presented separately for the vaginal spontaneous deliveries (24), the deliveries by forceps (8), and the cesarean section deliveries (9). Findings indicated that "during pathological deliveries CS levels in both mother and fetus are normal as long as there is no acidosis....If acidosis is present the CS level in the umbilical artery is usually higher than normal....These results indicate that the fetal adrenal gland reacts to acidosis, i.e., intrauterine stress, with increased corticosteroid secretion. This rise depends on the pH of fetal blood and not on the type of delivery."

424. Schmitt, Barton D.: "The Minimal Brain Dysfunction Myth," *American Journal of Diseases of Children*, 129:1313-1318, November, 1975.

The minimal brain dysfunction (MBD) concept is seen as one that "has become an all-encompassing, wastebasket diagnosis for any child who does not quite conform to society's stereotype of normal children." The "invalid criteria used for establishing MBD diagnoses" are discussed as are the "harmful effects of MBD diagnoses," and evidence is presented against the MBD concept. Guidelines are then discussed that "may be helpful to the pediatrician in dealing with general symptoms of hyperactivity, learning problems, etc." once the MBD concept has been revoked.

425. Schofield, Leon J., Jr., and Wong, Sandralawae: "Operant Approaches to Group Therapy in a School for Handicapped Children," *Developmental Medicine and Child Neurology*, 17:425-433, August, 1975.

The literature is briefly reviewed. Operant techniques were used with a group of four boys who had cerebral palsy and/or mental retardation and who were students in a school for such children. The boys ranged in age from four years ten months to five years seven months. A total of 23 treatment sessions were held twice a week for 30 minutes. The setting, the leadership, the procedures used, and the activities performed are described. "After treatment there was a considerable improvement in the children's attention-to-tasks and they showed some increase in social interactions, though to a lesser degree. Teacher ratings also showed some improvement in classroom behavior." These findings and the application of operant principles to group therapy with handicapped children are discussed.

426. Schulte, F.J.: "Perinatal Brain Damage," *Neuropädiatrie*, 6:329-330, November, 1975.

Advances made in neonatology leading to improvement in mortality and morbidity are briefly reviewed.

427. Schultze-Mosgau, H.; Poschmann, A.; Fischer, K.; and Lohbeck, H.U.: "The Scope of Prenatal Therapy in Severe Rhesus Hemolytic Disease," *Journal of Perinatal Medicine*, 3:44-46, 1975.

Reported are the results of 252 prenatal blood transfusions for rhesus hemolytic disease in 130 fetuses. Three questions concerning prenatal transfusions are presented and require answers because of the risks involved. In the cases reported there was a 51% success rate. "Out of 39 babies who had ascites at the time of the first transfusion, 13 survived. The amount of ascites aspirated at the first transfusion correlates with the prognosis: The chance of producing a living and healthy child is greater when the amount of ascites is under 5 mls than when it is over 5 mls. Babies with amniotic fluid bilirubin values from 0.4 to 0.6 still have a good chance of survival, whereas the prospects of success with values over 0.6 are very small. The technical risk of prenatal transfusion before the 27th week amounts, according to our observations, to about 6%."

428. Schwartz, Arthur H., and Murphy, Michael W.: "Cues for Screening Language Disorders in Preschool Children," *Pediatrics*, 55:717-722, May, 1975.

Described in this article are "procedures and criteria a pediatrician may employ during office evaluation to identify children suspected of having a developmental language disability." Listed in a table and discussed are four areas of disruption that may occur in language comprehension and/or expression and the specific characteristics associated with each disruption. Also listed are "pertinent questions to ask parents of preschool children with suspected language disorders."

429. Seidel, U.P.; Chadwick, O.F.D.; and Rutter, Michael: "Psychological Disorders in Crippled Children. A Comparative Study of Children With and Without Brain Damage," *Developmental Medicine and Child Neurology*, 17:563-573, October, 1975.

The Isle of Wight studies are reviewed. A study is then presented in which 83 crippled children, ages five to 15 years and having an IQ of 70 or more, were assessed as described. On the basis of all information available, these 83 children were divided into two groups; those "with a disorder due to cerebral involvement or damage above the brain stem" (33), and those "with a disorder due to some other cause" (42). Eight children were excluded from further study. These two groups of children are further described as are the methods used to assess them regarding psychiatric disorders, reading attainments, family situation, etc. "Psychiatric disorder was twice as common in children whose crippling was due to cerebral disease or damage rather than some peripheral lesion. As the groups were well matched in terms of physical incapacity and social background, it was concluded that brain damage was responsible for the children's increased vulnerability to emotional problems....Psychiatric disorder was found to be related not only to cerebral injury but also to various types of family disturbance. It is concluded that emotional and behavioural distrubance stemmed from both an increased biological vulnerability and psychosocial hazards." Findings are discussed.

430. Sekeles, E., and Ornoy, A.: "Osseous Manifestations of Gestational Rubella in Young Human Fetuses," *American Journal of Obstetrics and Gynecology*, 122:307-312, June 1, 1975.

The long bones of 30 fetuses were roentgenologically and microscopically studied after the interruption of pregnancy due to gestational rubella. In 19 of these cases there was clinical evidence of maternal rubella, and in 11 cases there had been close contact with rubella. Fetal age ranged from four to six months. There were 30 described fetuses that served as controls. Findings are presented for the x-ray examinations and for the microscopic examinations. "Of the 19 cases of interruption of pregnancy due to evidence of clinical rubella, x-ray changes were found in the metaphyses of the long bones in ten fetuses; specific microscopic injuries were found in 11 fetuses. Of the 11 fetuses from pregnancies interrupted because of close contact and subclinical rubella, x-ray changes were found in two fetuses and specific microscopic changes were found in five fetuses." These changes are described.

431. Seller, M.J., and Adinolfi, M.: "Levels of Albumin, α-Fetoprotein, and IgG in Human Fetal Cerebrospinal Fluid," *Archives of Disease in Childhood*, 50:484-485, June, 1975.

Levels of α-fetoprotein (AFP), albumin, and IgG were measured as described in the cerebrospinal fluid of six fetuses, ages 16 1/2 to 25 1/2 gestational weeks. All three proteins were found to be present in significant amounts. "The level of α-fetoprotein decreased, albumin increased and IgG remained roughly constant during this period. These results suggest that the permeability of the blood-brain barrier is not fully developed in the fetus."

432. Sells, Clifford J.; Carpenter, Robert L.; and Ray, C. George: "Sequelae of Central-Nervous System Enterovirus Infections," *New England Journal of Medicine*, 293:1-4, July 3, 1975.

A follow-up study was conducted on a group of 19 children, ages two and one half to eight years, who had had documented enterovirus infection 17 to 67 months before follow-up evaluation. Each of these 19 children were matched as described with control children. Complete physical and neurologic examinations, psychologic evaluations, and speech and hearing assessments were conducted on all children. Of the 19 post-infection children, "three children (16 per cent) had definite neurologic impairment, five (26 per cent) had possible impairment, and 11 (58 per cent) were free of detectable abnormalities. Children whose illness occurred during the first year of life, when compared to controls, were found to have significantly smaller mean head circumference (50.6 vs 51.6 cm, $P < 0.003$), significantly lower mean I.Q. (97 vs 115, $P < 0.007$), and depressed language and speech skills. Children whose illness occurred after the first year of life were not different from their controls." Findings are discussed.

433. Sever, John L.; Fuccillo, David A.; Ellenberg, Jonas; and Gilkeson, Mary Ruth: "Infection and Low Birth Weight in an Industrialized Society," *American Journal of Diseases of Children*, 129:557-558, May, 1975.

Using data from the Collaborative Perinatal Study, detailed examination was conducted of serum specimens from over 500 women who delivered low birth weight

infants and from matched controls. When the possible effect of 11 infectious agents was analyzed in relation to low birth weight alone or to a combination of abnormalities and low birth weight, no significant correlation was noted. "We therefore conclude that these infections are not a major factor in the cause of low-birth-weight infants in this study population." However, it is felt that urinary tract bacterial infections and genital mycoplasmal infections of mothers may be quite important in relation to low birth weight and should be thoroughly investigated.

434. Shannon, Daniel C.; Gotay, Felicita; Stein, Isreal M.; Rogers, Mark C.; Todres, I. David; and Moylan, Fergus M.B.: "Prevention of Apnea and Bradycardia in Low-Birthweight Infants," *Pediatrics*, 55:589-594, May, 1975.

A group of 17 low-birthweight infants, having been diagnosed as having severe apnea in the first week of life, were the subjects in this study. Methods of monitoring these infants are described and include nursing observations and, in nine infants, use of the pediatric pneumogram. "Nursing observations coupled with on-line alarm systems detected only 39% of severe apneic episodes as compared to the pneumogram recording technique." Theophylline was then administered to these infants as described after observation and recording were complete. "Theophylline in six hourly oral doses (1.5 to 4.0 mg/kg) yielded two-hour serum concentrations of 6.6 to 11.0 μ g/ml which completely controlled apneic spells exceeding 20 seconds in duration and markedly reduced 10-19-second apneic episodes and any resultant bradycardia. At these serum levels, toxicity was not observed." Findings are discussed as is optimum dosage.

435. Sharrard, W.J.W.: "The Orthopaedic Management of Spina Bifida," *Acta Orthopaedica Scandinavica*, 46:356-363, June, 1975.

Reviewed are assessment principles; orthopedic management principles; surgical procedures including those of the hip, knee, foot, and spine; complications; and prognosis.

436. Sharrard, W.J.W.; Allen, J.M.H.: Heaney, S.H.; and Prendiville, G.R.G.: "Surgical Prophylaxis of Subluxation and Dislocation of the Hip in Cerebral Palsy," *Journal of Bone and Joint Surgery*, 57-B:160-166, May, 1975.

A study was conducted in which two groups of spastic cerebral palsied patients were compared. In Group 1 were 36 children (72 hips) who had received conservative, non-surgical treatment between 1949 and 1957. "The primary criterion for inclusion in the group was the presence of an abduction range of less than 45 degrees in one or both hips." In Group 2 were 69 children (134 hips) who had received surgical plus similar conservative treatment between 1958 and 1973. "The primary indication for operation had been a range of abduction of 45 degrees or less." The methods of surgical management for the patients in Group 2 are explained as are the methods of clinical and radiological assessment in both groups. Results for each group of patients are presented and compared. Discussion is conducted regarding the comparability of the two groups, the maintenance of stability by operation, the factor of neurological maturity, the improvement in function in the operative group, and radiological improvement. Four conclusions are listed. "In the first group, 11 per cent of hips were

dislocated, 28 per cent subluxated, 46 per cent dysplastic and 15 per cent normal. In the second group no hip was dislocated, 13 per cent were subluxated, 35 per cent dysplastic and 52 per cent normal. Surgical intervention is indicated clinically for a range of abduction diminishing to less than 45 degrees and — on radiological criteria — for early dysplastic changes, especially a break in Shenton's line, irrespective of the patient's age, severity of involvement or neurological maturity. Prevention of subluxation or dislocation improves function and diminishes the liability to develop a painful hip in adolescence or early adult life."

437. Sharrard, W.J.W., and Webb, J.: "Supra-Malleolar Wedge Osteotomy of the Tibia in Children with Myelomeningocele," *Journal of Bone and Joint Surgery*, 56-B:458-461, August, 1974.

The indications for this operation, the technique, and the results of this procedure on 13 children, ages four to 14 years, are reported. A total of 16 supra-malleolar osteotomies were performed on these 13 children, all of whom had undergone previous operations for foot deformity and paralysis. "The results of this small series suggest that supramalleolar osteotomy is the operation of choice when there is residual valgus or varus deformity with an abnormal line of weight-bearing, especially when the main deformity is at the level of the ankle. The operation has been performed mainly in children aged ten or more, lest the operation should affect growth of the lower tibial epiphysis, but even in those children whom necessity dictated that the operation should be performed at an earlier age, there has been no evidence of disturbance of growth."

438. Shea, Ed: "A Home Guide of Arts and Activities for Preschool Hearing-Impaired Children and Others," *Rehabilitation Literature*, 36:376-380+, December, 1975.

The author describes art and craft activities done with his three and one half year old hearing-impaired son. Mr. Shea is an industrial arts and art teacher.

439. Shenker, Lewis; Post, Robert C.; and Seiler, Jerome S.: "Routine Electronic Monitoring of Fetal Heart Rate and Uterine Activity During Labor," *Obstetrics and Gynecology*, 46:185-189, August, 1975.

Results of the routine electronic monitoring of 2,411 patients in labor are presented. The methods used and the management of patients having abnormal recording patterns are also described. "As a direct result of this program, intrapartum stillbirths have been dramatically reduced from 1.2/1000 livebirths to 0.5/1000 livebirths. Perinatal mortality for fetuses over 1000 g. has fallen to 8.8/1000 deliveries. Apgar scores below 6 at 5 minutes have decreased from a rate of 24/1000 to 14/1000 livebirths. No increase in cesarean sections for fetal distress has occurred although the primary cesarean section rate has increased over the past 10 years, apparently unrelated to fetal monitoring. It is strongly recommended that all patients in labor be monitored by currently available technics."

440. Shennan, Andrew T.: "The Effect of Phototherapy on the Hyperbilirubinemia of Rhesus Incompatibility," *Pediatrics*, 54:417-422, October, 1974.

To determine the effect of phototherapy on serum indirect bilirubin levels, the case records were studied from 141 infants who were born in one unit in Scotland over a six year period and who had had jaundice due to rhesus incompatibility. Phototherapy was introduced in this unit during this period. Thus those infants seen before the use of phototherapy (102 of 141) acted as controls. The infants were divided into four groups according to severity based on cord blood findings. Findings are presented for each of the four groups. Phototherapy was found to significantly reduce the "mean serum indirect bilirubin concentrations over the first 48 hours of life. This was most marked in mildly affected infants not requiring exchange transfusion at birth, reducing the mean indirect bilirubin by 3.5 mg/100 ml at 48 hours of age, but was also significant in the more severely affected groups. Phototherapy also reduced the number of second and subsequent exchange transfusions required by all groups of severity. It is concluded that phototherapy is a valuable adjunct to the management of the newborn infant with rhesus incompatibility."

441. Sher, Phyllis K., and Brown, Stuart B.: "A Longitudinal Study of Head Growth in Pre-Term Infants. I: Normal Rates of Head Growth," *Developmental Medicine and Child Neurology*, 17:705-710, December, 1975.

Criteria upon which a presumptive diagnosis of progressive hydrocephalus may be made are listed. A study is presented in which 43 newborns, born pre-term and having birth weights between 1000 and 2000 g., were assessed as to gestational age within 24 hours of birth. Head circumference was measured in these infants regularly as described up to 16 weeks of age. Findings are listed and discussed. "The results indicate that healthy pre-term infants regularly cross percentiles for head circumference in the first months of life, the most rapid rates of growth being observed in the smallest babies. Only infants with significant medical problems in the neonatal period conform to or fall below the expected patterns of growth. A velocity curve for pre-term infants, according to health and gestation, is presented."

442. Sher, Phyllis K., and Brown, Stuart B.: "A Longitudinal Study of Head Growth in Pre-Term Infants. II: Differentiation Between 'Catch-Up' Head-Growth and Early Infantile Hydrocephalus," *Developmental Medicine and Child Neurology*, 17:711-718, December, 1975.

In order to differentiate between 'catch-up' head growth and truely excessive head growth in infants, 18 infants of low birth weight who displayed apparent excessive head growth were evaluated as to gestational age and head growth as described. Head-growth velocity curves were correlated with medical condition and gestational age, and three groups of infants were identified and described. "The first group consisted of infants who, after recovery from being sick, manifested a spurt in head-growth between the third and seventh post-natal weeks parallel to that of the healthy pre-term infant. These children were neurologically normal and exhibited 'catch-up' head-growth. The second group of infants, after recovery from sickness, attained rates of head growth which were compatible with those observed only in healthy children. They did not cross percentiles for head growth or manifest signs of increased intracranial pressure.

All were hydrocephalic. A third group of healthy infants had abnormally high rates of head growth, and were found to have enlargement of the ventricular system compatible with hydrocephalus." Conclusions are presented.

443. Sheridan, Mary D.: "The Stycar Language Test," *Developmental Medicine and Child Neurology*, 17:164-174, April, 1975.

Discussed in this article are the principles and procedures used in the STYCAR (Sheridan Tests for Young Children and Retardates) Developmental Language Test. It is designed to be employed in the differential diagnosis and management of developmental disorders of speech and language in young children, primarily under the age of seven years. Terms used are listed and defined, the concept of language codes and their acquisition is developed, and an "outline of expected ages and stages in development of spoken language" is presented. Also listed are seven "causes of failure or delay in development of spoken language." The three testing procedures used in the STYCAR language test are then individually explained. They are the Common Objects Test, applicable from about 11 to 20 months mental age; the Miniature Toy Test, applicable from about 21 months to four and one half years; and the Picture-Book Test, applicable from about two and one half to seven years mental age. The recording of test data is briefly mentioned, and a list is presented of those types of children for whom careful follow-up is needed.

444. Sillanpää, Matti: "The Significance of Motor Handicap in the Prognosis of Childhood Epilepsy," *Developmental Medicine and Child Neurology*, 17:52-57, February, 1975.

A group of 244 epileptic children, who had been admitted to a hospital in Finland for treatment of epilepsy between 1961 and 1964, were reexamined after a mean follow-up period of 10 1/2 years for the purpose of determining "how the severity of epilepsy varies with different degrees of motor handicap in children." These patients were divided into four groups: "those without motor handicap (150); those with some degree of clumsiness (32); those with cerebral palsy (51); and those with severe hypotonia secondary to serious or profound mental retardation (11)." Results are presented for these groups regarding the age at onset of epilepsy, intelligence, prognosis regarding the seizures, and the results of treatment for the epilepsy. Five conclusions are listed. "A significant correlation was found between severity of motor handicap and poor prognosis of epilepsy."

445. Simches, Raphael: "Economic Inflation: Hazard for the Handicapped," *Exceptional Children*, 41:229-242, January, 1975.

The author, president of the Council for Exceptional Children, presented this official statement to the Summit Conference on Inflation, the Health, Education, Income Security and Social Services in September of 1974. The article focuses on the handicapped child and the negative implications that inflation is creating for their education. President Ford asked that certain presented questions be answered by participants at the Conference. These questions and their answers are included.

446. Simeonsson, Rune J., and Wiegerink, Ronald: "Accountability: A Dilemma in Infant Intervention," *Exceptional Children*, 41:474-481, April, 1975.

Attention in this article is directed toward the need for accountability in early intervention programs for handicapped children. "Two parameters of accountability, effectiveness and efficiency, are explored, and specific methods proposed to implement these parameters in intervention. The need for commitment and collaboration on a national level is stressed." With regard to effectiveness, several screening instruments for infants and toddlers are described, with their individual characteristics summarized in a chart. Basic concepts in evaluation are also considered. With regard to efficiency, "as it relates to programs for the handicapped child, efficiency is perhaps best thought of as the greatest amount of developmental change which can occur in children given a certain program and time." Problems in the analysis of efficiency are discussed, including comparative analysis, and an approach to comparative analysis of children and programs is presented.

447. Simpson, John W.; Lawless, Robert W.; and Mitchell, A. Cameron: "Responsibility of the Obstetrician to the Fetus. II. Influence of Prepregnancy Weight and Pregnancy Weight Gain on Birthweight," *Obstetrics and Gynecology*, 45:481-487, May, 1975.

The relationships found between maternal diet, prepregnancy weight, pregnancy weight gain, and fetal outcome are historically reviewed. Emphasis is placed on the deleterious effects to the fetus of maternal dietary restrictions during pregnancy. A study is presented in which the pregnancies of 24,335 white and 2,133 black women were investigated. "Our study revealed a positive correlation of prepregnancy weight and pregnancy weight gain to term infant birthweight. It is of the utmost importance to the fetus and the future of the human race that the diet of pregnant women contain the caloric value and essential nutrients recommended by the National Research Council."

448. Sinclair, John C., and Saigal, Saroj: "Nutritional Influences in Industrial Societies," *American Journal of Diseases of Children*, 129:549-553, May, 1975.

Many studies are reviewed that are concerned with the relationship between maternal undernutrition and low birth weight in industrial societies. These studies are considered in four categories: (1) epidemiological associations, (2) clinical studies of growth-retarded infants, (3) maternal dietary studies, and (4) pathologic studies. It is concluded that "there are a number of clues that suggest that maternal undernutrition contributes to the problem of low birth weight in industrial societies, but the evidence is not complete and the prevalence and magnitude of the nutritional effect are both unknown at present."

449. Smith, Barry T.; Giroud, C.J.P.; Robert, Marie; and Avery, Mary Ellen: "Insulin Antagonism of Cortisol Action on Lecithin Synthesis by Cultured Fetal Lung Cells," *Journal of Pediatrics*, 87:953-955, December, 1975.

An experimental study is presented in which it was found that "in monolayer cell cultures from late gestation (28-day) rabbit fetal lungs, cortisol (5.5×10^{-6}M) enhances lecithin synthesis and reduced cellular growth. The addition

of insulin (25-100 μ U/ml) abolishes the stimulatory effect of cortisol on lecithin synthesis but does not affect its growth - inhibiting activity." Methods are described, and findings are discussed including their potential clinical importance in infants of diabetic mothers.

450. Smith, David W., and Simons, Estelle R.: "Rational Diagnostic Evaluation of the Child with Mental Deficiency," *American Journal of Diseases of Children*, 129: 1285-1290, November, 1975.

An approach toward diagnostic evaluation of the mentally deficient child is presented. The need for individualization in evaluation is stressed. Using this approach, an 'appropriate' described history is taken and a physical examination is given. This exam "does not include any routine laboratory investigation." After this procedure has been followed, the patient can usually be classified into one of four categories. "These categories are (1) prenatal problem of morphogenesis, (2) prenatal insult to brain, (3) postnatal onset of brain dysfunction, and (4) undecided age at onset." Each of these categories then necessitate specific types of additional, described diagnostic evaluation which includes laboratory evaluation. The cases of 98 consecutive children with mental deficiency were then retrospectively studied "in an effort to determine the number who had had 'nonrational' diagnostic studies." Findings indicated that "ninety percent of these children were considered to have had 'nonrational' laboratory tests, and of these none contributed to elucidation of the basic diagnosis. The only tests that were valuable had been indicated by a specific historical or physical finding in addition to mental deficiency."

451. Smith, Joseph F.: *Pediatric Neuropathology*. New York: McGraw-Hill, 1974. 265 pp.

Topics considered in the eleven chapters of this volume include the development and maturation of the brain; pathological reactions in the nervous system of the embryo, fetus, infant, and child; malformations; genetic metabolic abnormalities; vascular, traumatic, and anoxic lesions; deprived and toxic lesions; bacterial, fungal, and protozoal infections of the nervous system; viral infections of the nervous system; tumors; hydrocephaly; and mental retardation and cerebral palsy. Many slides and specimens are reproduced. A list of references follows each chapter, and the book is indexed.

452. Soeffing, Marylane: "Where the Action Is: A Look at Four Special Education R and D Centers," *Exceptional Children*, 41:419-425, March, 1975.

Reviewed are the projects being carried on at the four Research and Development Centers for Handicapped Children at Indiana University, at the Center at Oregon for Research in the Behavioral Education of the Handicapped, at the Research, Development, and Demonstration Center in Education of Handicapped Children at the University of Minnesota, and at the Curriculum Research and Development Center in Mental Retardation at Yeshiva University in New York City. Each of these centers has its "own distinct focus." The centers are sponsored by the Bureau of Education for the Handicapped, U.S. Office of Education.

453. Sokol, Robert J.; Roux, Jacques F.; and McCarthy, Sherron: "Computer Diagnosis of Labor Progression. VI. Fetal Stress and Labor in the Occipitoposterior Position," *American Journal of Obstetrics and Gynecology*, 122:253-260, May 15, 1975.

In order to determine if there is excessive stress on the fetus during abnormal labor, a group of 36 high-risk patients having fetuses in the occipitoposterior (OP) position were compared with a matched group of patients having fetuses in the occipitoanterior position on a number of factors, including labor progress and patterns, fetal monitoring parameters, and fetal outcome. Methods of study are described and include a computer program to diagnose dysfunctional dilation and descent patterns. "The OP group showed significant excesses of dysfunctional labor patterns, uterine contraction pattern abnormalities, and late and variable fetal heart rate decelerations not accounted for by the use of oxytocin or the presence of cord problems. In OP labor, lower Apgar scores were associated with a significant excess of preceding fetal heart rate decelerations independent of operative delivery." Comment is made on these findings, and implications of the study concerning both the use of computer diagnosis and the clinical findings are presented. Further discussion is conducted by Drs. Preston V. Dilts, Jr., Charles A. Hunter and Sokol.

454. Solomons, Gerald, and Solomons, Hope C.: "Motor Development in Yucatecan Infants," *Developmental Medicine and Child Neurology*, 17:41-46, February, 1975.

Studied were a total of 288 infants from three described socio-cultural groups in Yucatan, Mexico. There were 96 infants in each group with eight infants being examined from each group at each month of age from age two weeks to age one year and two weeks. Testing consisted of administration of the Denver Developmental Screening Test (DDST) and the Bayley Motor Scale, and findings are reported. "There were no significant differences in motor development among the groups or between boys and girls. There was an increase in abilities with age. Compared with the Bayley norms for the USA, fine motor co-ordination was advanced in these children but there was a delay in walking. The DDST was unable to detect children more than one standard deviation below the mean on the Bayley Infant Motor Scale."

455. Spellacy, W.N.; Buhi, W.C.; and Birk, S.A.: "The Effectiveness of Human Placental Lactogen Measurements as an Adjunct in Decreasing Perinatal Deaths," *American Journal of Obstetrics and Gynecology*, 121:835-844, March 15, 1975.

Two studies are reported. The first study was retrospective and involved the analysis of 101 pregnancies in which a perinatal death occurred after the thirtieth week of gestation. Serum human placental lactogen (HPL) levels had been determined in all cases before the death. Of these 101 cases, there were 71 stillbirths and 30 neonatal deaths. The 71 stillbirth cases were divided into four groups based on maternal complications. Of these 71 cases, 36 (50.7%) were found to have "abnormally low fetal-danger zone (F-D zone) HPL levels," and when severe toxemia was a complication, "85.7 per cent (18/21) of the fetal deaths were preceded by a F-D zone HPL value." Of the 30 cases of neonatal death, 20% had abnormal low F-D zone HPL levels. The second study was a three-year, prospective investigation in which 2,733 high-risk pregnant women had serial serum HPL determinations made at each perinatal visit. Of

these 2,733 cases, 1,362 were placed in a treatment group, where HPL levels were made available after each visit and were used in the management of the patient, and 1,371 women were placed in a control group where HPL values were not made available until after the delivery. F-D zone HPL values were found to be of similar frequency in both groups. "The results showed that although the neonatal mortality rates were similar the HPL treatment group had a significantly lower fetal death rate (2.6 vs. 14.2%) and thus perinatal mortality rate (3.4 vs. 15.0%). This study supports the usefulness of routine prenatal HPL measurements in the management of high-risk pregnancies." Comment is made on these findings, and further discussion is conducted by Drs. Luther M. Talbert and Spellacy.

456. Spira, Alfred; Spira, Nadine; Goujard, Jeanine; and Schwartz, Daniel: "Smoking During Pregnancy and Placental Weight. A Multivariate Analysis of 3759 Cases," *Journal of Perinatal Medicine*, 3:237-241, 1975.

A prospective study was conducted on 3759 cases of whom 13% of the mothers smoked cigarettes. Placentas were measured as described, and much other data on the women were obtained. Findings indicated "that the difference in placental weight between smokers and non-smokers is, if not nil, at least minimal, and that is definitely less than might be expected taking birth weight and other factors into consideration in a multivariate analysis....The distortion between the fetal and placental weights, which are very closely correlated, assigns to smoking a peculiar place among the factors influencing these two weights, a result which may lead to various interpretations."

457. Springer, Ninfa S., and Fricke, Norma L.: "Nutrition and Drug Therapy for Persons with Developmental Disabilities," *American Journal of Mental Deficiency*, 80:317-322, November, 1975.

This article is essentially a review of the literature on the effects drugs have on the nutrient metabolism and diet of people having developmental disabilities. Possible side effects from the use in drug therapy of anticonvulsants, central nervous system stimulants, tranquilizers, antidepressants, and vitamins used as drugs are considered. It is concluded that more research on the biochemical interaction of drugs and nutrients is needed.

458. Stark, Rachel E., ed.: *Sensory Capabilities of Hearing-Impaired Children.* Baltimore: University Park Press, 1974. 302 pp.

This volume contains the proceedings of a workshop held in Baltimore in October, 1973 and sponsored by the Information Center for Hearing, Speech, and Disorders of Human Communication of The John Hopkins University School of Medicine. The keynote address was given by Ira J. Hirsh and was entitled "Information Processing and the Deaf Child." Other contributions included "Sensory Capabilities in Normal and Hearing-Impaired Children," by Carl E. Sherrick; "Perceptual and Cognitive Strategies," by Irwin Pollack; and "Language Processing," by Alvin M. Liberman. Discussions conducted on these subjects are included in narrative form. There is a Summary by S. Richard Silverman and an article on future directions by the editor. Reference lists are frequent, and the volume is indexed by subject and author.

459. Stein, Harry: "Maternal Protein Depletion and Small-For-Gestational-Age Babies," *Archives of Disease in Childhood*, 50:146-148, February, 1975.

Reference is made to a previous study in which a high incidence of small-for-gestational-age infants was found among undernourished urban Africans. To investigate this further, serum albumin levels were determined as described in 103 African mothers of single, low birthweight infants, and the gestational age of these infants was estimated. A direct correlation was found between the serum albumin levels and the size of the infants for gestational age. Detailed findings are reported. "Thus maternal protein depletion, and probably therefore malnutrition, was associated with the high incidence of small-for-age-gestational babies."

460. Stein, Israel, and Shannon, Daniel C.: "The Pediatric Pneumogram: A New Method for Detecting and Quantitating Apnea in Infants," *Pediatrics*, 55:599-603, May, 1975.

Described is a diagnostic procedure for evaluating respiratory activity in infants. Using information obtained from the pediatric pneumogram, "the frequency and severity of apnea can be assessed and appropriate therapeutic intervention determined." Examples of recordings obtained by this method are presented as are three case reports in which it was used. "The pediatric pneumogram is of diagnostic value in infants with spells of apnea, bradycardia, or unexplained cyanosis whether sleep-related or associated with prematurity whether observed in-hospital by the professional staff or by the parents at home."

461. Stein, Sherman C.; Schut, Luis; and Ames, Mary D.: "Selection for Early Treatment of Myelomeningocele: A Retrospective Analysis of Selection Procedures," *Developmental Medicine and Child Neurology*, 17:311-319, June, 1975.

The records of 163 children, who had been treated at The Children's Hospital of Philadelphia between 1963 and 1969 for an open myelomeningocele and upon whom complete evaluations had been made, were reviewed to develop a selection procedure for those children most likely to benefit from surgery. These children had been followed for a mean period of seven and one half years. The characteristics of these cases are described. "No physical findings, either singly or in combination were found to distinguish accurately between children with good and poor prognoses, and an alternative selection procedure is proposed which takes into consideration the absence or presence of lacunar skull deformity (a finding strongly associated with mental retardation). Early surgery is not recommended for children with lacunar skull deformity and at least two of Lorber's major adverse neonatal criteria, or children with associated gross congenital anomalies." These findings are discussed.

462. Steiner, Hans, and Neligan, Gerald: "Perinatal Cardiac Arrest: Quality of the Survivors," *Archives of Disease in Childhood*, 50:696-702, September, 1975.

This study involves the follow-up and neurological and developmental assessment to a mean age of four and one half years of 22 consecutive survivors of perinatal cardiac arrest. Of these 22 children, four were seen to have "gross,

diffuse brain-damage," and two of these four died before three years of age. No evidence of brain damage was found in the other 18 cases. The four cases of brain damage "were the only 4 survivors of the first month of life who took more than 30 minutes to establish regular, active respiration after their heartbeat had been restored. The arrest in these cases had occurred during or within 15 minutes of delivery, and followed antepartum haemorrhage, breech delivery, or prolapsed cord." Clinical data on the 22 cases are presented.

463. Stenchever, Morton A., and Parks, Kathryn J.: "Some Effects of Diazepam on Pregnancy in the Balb/C Mouse," *American Journal of Obstetrics and Gynecology*, 121: 765-770, March 15, 1975.

In order to study the effect of diazepam on the successful outcome of pregnancy in the mouse and to identify any possible teratogenic effect, five groups of mated, female Balb/C mice were studied. Group A mice were fed a described mixture of diazepam - propylene glycol from days one to nine of gestation, Group B mice were fed the same mixture on days five to 12 of gestation, Group C mice were fed propylene glycol as described on days one to nine of gestation, Group D mice were fed propylene glycol on days five to 12 of gestation, and Group E mice served as pure controls and received no drug. All animals were put to death on day 15 of gestation, and methods of study are described. Group B mice were found to have "significantly fewer number of pregnancies than did the other groups ($p < 0.001$). In addition, pups delivered of diazepam-fed mice were heavier than control animals. No significant differences were noted, however, with respect to litter size, number of resorption sites, or presence of gross anomalies. In view of these data it would seem prudent to continue to avoid the use of diazepam during pregnancy." Comment is made on these findings, and further discussion is conducted by Drs. Ralph M. Wynn, Russell R. de Alvarez, and Stenchever.

464. "Stereotaxic Neurosurgery for Cerebral Palsy," *British Medical Journal*, 3:665, September 20, 1975.

Recent studies in this area are briefly reviewed.

465. Stewart, John D.M.: *Traction and Orthopaedic Appliances*. New York: Churchill Livingstone, 1975. 206 pp.

Traction, its general principles, methods of application, appliances and procedures used, and the management of patients in traction are considered in detail. There are separate chapters on fixed traction, sliding traction, and spinal traction. The chapters in the latter half of the book are then devoted to discussions of orthopedic appliances and procedures, including spinal supports, lower limb bracing, walking aids, and crutch walking. There is a subject index.

466. Stiehm, E. Richard: "Fetal Defense Mechanisms," *American Journal of Diseases of Children*, 129:438-443, April, 1975.

Considered in this article are the "(1) normal development of each of the major components of the human immune system, (2) factors that may activate the fetal immune system and the consequences of such activation, and (3) factors that may impair the development of the immune system, and the consequences of such impairment." Diseases resulting from deficiencies in the fetal immunologic system are listed as either primary or secondary immunodeficiencies, and are discussed.

467. Stocker, J.; Desjardins, P.; and Deleon, A.: "Ultrasonography: Its Usefulness and Reliability in Early Pregnancy," *American Journal of Obstetrics and Gynecology*, 121:1084-1088, April 15, 1975.

Routine uses for ultrasound during pregnancy are listed. In order to determine the reliability and usefulness of ultrasonography in early complicated gestations, the cases of 210 consecutive women, who had had ultrasonic examination early in pregnancy and whose pregnancy outcome was known, were reviewed. Methods of interpretation are described. "Ultrasonography was found to be diagnostic in 96.2 per cent of these cases, with the primary indication for its use being 'assessment of pregnancy well-being.' Multiple gestations, hydatidiform males, and pelvic tumors associated with pregnancy were readily diagnosed and assessed in their early stages and the gestational age was correctly determined when dates were uncertain."

468. Stocker, J.; Mawad, R.; Deleon, A.; and Desjardins, P.: "Ultrasonic Cephalometry: Its Use in Estimating Fetal Weight," *Obstetrics and Gynecology*, 45:275-278, March, 1975.

Three known formulas of prenatal weight prediction were studied with data supplied from 100 consecutive cases in which the fetal biparietal diameter (BPD) had been successfully measured in utero within one week prior to delivery. These three formulas are presented. They are those of Thompson, Hellman, and Kohorn. Each of these three formulas were applied to the 100 diameters measured. "Thompson's formula was found to best reflect our measuring technic equipment, and scanning population." "With Thompson's formula, 78% of infant weights fell within range of 350 g., the absolute mean error for the 100 cases being 267 g. Excluding cases of fetal malnutrition, when the biparietal diameter (BPD) obtained was 8.3 cm. or more, all newborn babies weighed more than 2000 g., and with a BPD of 8.7 cm. or more they all exceeded 2500 g. Ninety percent of newborn babies in whom the in utero BPD was 9.1 cm. or more weighed more than 3000 g." Findings are discussed, and conclusions are presented.

469. Stores, Gregory: "Behavioural Effects of Anti-epileptic Drugs," *Developmental Medicine and Child Neurology*, 17:647-658, October, 1975.

The literature is reviewed regarding the psychiatric effects of phenobarbitone, primidone, phenytoin, and other anti-epileptic drugs; the psychotropic action of anti-epileptic drugs including carbamazepine, sulthiame, and beclamide, and the effects of anti-epileptic drugs on learning. "It is concluded that the

psycho-pharmacology of anti-epileptic drugs is unsatisfactory at present because of inadequate and unsophisticated reporting of behavioural change and because of the common problem of polypharmacy, and that more accurate observations are needed on less heterogeneous groups of patients than have been described in the past."

470. Studd, John; Clegg, D.R.; Sanders, R.R.; and Hughes, Anthony O.: "Identification of High Risk Labours by Labour Nomogram," *British Medical Journal*, 2:545-547, June 7, 1975.

Included in this study were 741 consecutive spontaneous labors. A described labor stencil was used to draw the expected, normal cervimetric progress of each patient. "If the patient's progress was maintained to the left of this nomogram line the labour was considered to be normal and oxytocic stimulation withheld." However, if the progress of labor extended two hours past the nomogram, uterine contractions were stimulated as explained. This system of identifying high risk labors was found to result "in shorter labours, fewer instrumental deliveries and caesarean sections, and babies with higher Apgar scores than in those dysfunctional labours which were not stimulated....This selection of patients is important to prevent a major obstetric advance being abused and discredited at a time when the profession and public are questioning the safety of active labour."

471. Sutherland, David H.; Larsen, Loren J.; and Mann, Roger: "Rectus Femoris Release in Selected Patients with Cerebral Palsy: A Preliminary Report," *Developmental Medicine and Child Neurology*, 17:26-34, February, 1975.

The literature is reviewed. Pre- and post-operative gait analysis techniques were used to study the effects on the walking patterns of eight cerebral palsied children of surgical rectus femoris release. These eight case reports and individual analysis results are presented. "In these patients, back-knee thrust did not improve because it was not caused by rectus contracture. The effect upon hip was also variable: two patients had increased hip flexion and a third had diminished hip flexion after release. In six of the eight patients knee flexion was improved in early swing phase. Improvement from surgery can be expected when rectus spasticity is sufficient (1) to interfere with the initiation of swing phase, and (2) to decrease the amplitude of knee flexion. Little change occurred in the patients who did not have these functional deficits."

472. Sutherland, Grant R.; Brock, D.J.H.; and Scrimgeour, J.B.: "Amniotic Fluid Macrophages and the Antenatal Diagnosis of Anencephaly and Spina Bifida," *Journal of Medical Genetics*, 12:135-137, June, 1975.

The macrophage content of amniotic fluid was determined in 94 samples. A microphage count of 41 was established as the upper limit of normal. "Amongst 65 amniotic fluids collected for antenatal diagnostic studies before 22 weeks' gestation there were eight which had macrophage counts ranging from 82 to 6226, three of these were shown to have anencephaly and two spina bifida. The reasons for three apparently false positives are as yet undetermined. Rhesus isoimmunized amniotic fluids were found to have macrophage counts of up to 276 and

a possible explanation for this is considered. It is argued that an elevated amniotic fluid macrophage count may indicate a CNS defect or possibly other fetal abnormality."

473. Swaiman, Kenneth F., and Wright, Francis S.: *The Practice of Pediatric Neurology*. Volumes I and II. St. Louis: C.V. Mosby, 1975. Volume I: pp. 1-542 plus index. Volume II: pp. 543-1082 plus index.

This book, presented in two volumes, is divided into three sections. "Section one places emphasis upon the historical, physical, and laboratory examinations," and is entitled "Evaluation of the Patient's Problems." "Section two is the direct extension of our continuing attempts to develop differential diagnosis based on the chief complaint. It enables the reader to consult this text, utilizing the child's symptoms and signs as a guide." These individual symptoms and signs are considered in 21 chapters. "Section three is designed to provide the reader with a detailed description of the disease processes that affect the nervous system of children." This final section is begun in Volume I and is continued in Volume II. Various neurological diseases of childhood are individually discussed in its 16 chapters. Each chapter is followed by a lengthy list of references. There are a total of 42 contributors and 457 illustrations in the two volumes. Each volume contains a complete index to both volumes.

474. Sybulski, S., and Maughan, G.B.: "A Rapid Method for the Measurement of Estradiol and Hydrocortisone Levels in Maternal and Fetal Blood and Amniotic Fluid," *American Journal of Obstetrics and Gynecology*, 121:32-36, January 1, 1975.

Such a method is explained whereby estradiol and hydrocortisone levels can be simultaneously measured in maternal and umbilical cord blood. Rapid chromatography on small Sephadex LH-20 columns is utilized to separate estradiol and hydrocortisone from interfering steroids. "The method is rapid enough to permit the monitoring of a high-risk pregnancy for plasma estradiol levels on a daily basis. The method is sensitive enough to permit assessment of perinatal adrenocortical function." The same method can be used to measure hydrocortisone in as little as 3 ml. of amniotic fluid.

475. Taeusch, H.W., Jr.: "Glucocorticoid Prophylaxis for Respiratory Distress Syndrome: A Review of Potential Toxicity," *Journal of Pediatrics*, 87:617-623, October, 1975.

"Much evidence suggests that glucocorticoids may increase the rate of lung development during late fetal life, and thereby decrease the risk of respiratory distress syndrome if the fetus is born prematurely." Selected animal and human studies are reviewed "that relate to potential toxicity, particularly for the fetus and newborn infant" from glucocorticoid treatment for respiratory distress syndrome "so that the 'risk/benefit ratio' of this form of therapy may be assessed."

476. Takebe, K.; Regenos, E.; and Basmajian, John V.: "Patterns of Muscular Activity Around the Hip Joint in Ambulatory Children with Cerebral Palsy," *American Journal of Physical Medicine*, 54:279-288, December, 1975.

Using electromyographic methods, the effect on hip muscles of posture and voluntary movements was studied in 18 children, ages six to 18 years, who had spastic cerebral palsy. All of these subjects were ambulatory either with or without braces. Five normal adult volunteers served as controls. Results are presented regarding range of motion (ROM) findings, radiographic findings, EMG findings in three postures, and EMG findings in a number of listed, voluntary movements. "In each posture, subluxation hips showed greater activity than concentric and normal hips, and the activity pattern was mostly that of either the flexion or the extension synergies in voluntary movements. The concentric hips did not show the characteristic pattern." Findings are discussed, and four conclusions are listed.

477. Tan, K.L.: "Comparison of the Effectiveness of Phototherapy and Exchange Transfusion in the Management of Nonhemolytic Neonatal Hyperbilirubinemia," *Journal of Pediatrics*, 87:609-612, October, 1975.

Two matched groups of 26 Chinese infants in each group participated in this study in which phototherapy and exchange transfusion were compared regarding their effectiveness in treating nonhemolytic neonatal hyperbilirubinemia. One group of infants was treated by exchange transfusion while the other received phototherapy with the indications for both types of treatment being the same. Methods are described. The findings indicated that "although the exchange transfusion achieved an immediate reduction of bilirubin level, the 'rebound' was rapid and tended to offset this reduction. The more gradual and steady effect of phototherapy resulted in a significantly lower serum bilirubin level at 1, 2, and 3 days after commencement of therapy; the rebound after phototherapy was small. Phototherapy was demonstrated to be more effective than exchange transfusion in achieving prolonged reduction of bilirubin levels for nonhemolytic hyperbilirubinemia." Implications are considered.

478. Tan, K.L.: "Comparison of the Effectiveness of Single-Direction and Double-Direction Phototherapy for Neonatal Jaundice," *Pediatrics*, 56:550-553, October, 1975.

Such effectiveness was compared in two matched groups of Chinese infants having idiopathic jaundice treated with phototherapy. One group of infants received single-direction phototherapy with all seven lamps arranged above the infant, and the other group received double-direction phototherapy in which five lamps were arranged above the infant and two lamps were below. Methods are described and photographs illustrate. "The total energy output on the skin of the infants were similar in both groups. The 24-hour fall in bilirubin levels were almost identical in the two groups; the number of infants in each group achieving bilirubin levels less than 11 mg/100 ml at 24, 48 and 72 hours was statistically very similar too." Findings are discussed.

479. Tejani, Nergesh; Mann, Leon I.; Bhakthavathsalan, Amrutha; and Weiss, Robert R.: "Correlation of Fetal Heart Rate-Uterine Contraction Patterns with Fetal Scalp Blood pH," *Obstetrics and Gynecology*, 46:392-396, October, 1975.

Subjects in this study were 216 patients who underwent both fetal heart rate-uterine contraction (FHR-UC) monitoring and a total of 460 fetal scalp blood (FSB) pH determinations during labor. The FHR-UC records were analyzed both qualitatively and quantitatively and the two methods were compared as described. "It is concluded that FHR-UC monitoring can be used to screen the innocuous from the ominous periodic change but that fetal scalp blood pH must be obtained to identify accurately the true from the false-positive ominous pattern."

480. Tejani, Nergesh; Mann, Leon I.; Bhakthavathsalan, Amrutha; and Weiss, Robert R.: "Prolonged Fetal Bradycardia with Recovery - Its Significance and Outcome," *American Journal of Obstetrics and Gynecology*, 122:975-978, August 15, 1975.

Studied were 15 patients in whom labor was monitored and 16 episodes of prolonged fetal bradycardia, as defined occurred. The mean fetal pH during the early recovery period following the bradycardia was found to be significantly less than the pH during the late recovery period. Thirteen of the 15 patients delivered vaginally, and all 15 neonates had five minute Apgar scores of seven or greater. "It is the purpose of this study to show that many of these fetal bradycardias with accompaning acidosis are temporary in nature and show total apparent recovery."

481. Tenbrinck, Margaret S., and Buchin, Sandra Y.: "Fetal Alcohol Syndrome," *Journal of the American Medical Association*, 232:1144-1147, June 16, 1975.

A case is presented of a boy, evaluated at age two years, who demonstrated the fetal alcohol syndrome. "Although considerably postterm, he weighed less than 1.5 kg (3 lb.) at birth and has failed to catch up at 2 1/2 years of age. In addition to continuing prenatal and postnatal growth and developmental deficits, he has many of the other stigmata described as characteristic of this syndrome." These abnormalities are listed and compared with other cases.

482. Thanangkul, Ousa, and Amatayakul, Kosin: "Nutrition of Pregnant Women in a Developing Country - Thailand," *American Journal of Diseases of Children*, 129: 426-427, April, 1975.

The nutritional status of pregnant women in Thailand was studied and compared to other countries. Findings regarding nutritional deficiencies are reported. "The Thai diet was found to be deficient in vitamin, protein, calcium, and iron and was similar to diets reported from other developing countries, but distinctly inadequate in comparison to those in the industrial societies."

483. Thomas, D.B.: "Prenatal Stress, Hyaline Membrane Disease and Coagulation Factors in Low Birthweight Babies," *Australian Paediatric Journal*, 11:26-28, March, 1975.

Studied and compared regarding the development of hyaline membrane disease, blood coagulation status, mortality, and the incidence of intraventricular hemorrhage at autopsy were 52 infants weighing less than 1500 g. at birth and displaying listed signs of prenatal stress and 50 infants also having birthweights of less than 1500 g. but showing no evidence of stress. Findings indicated that the "babies subjected to stress were significantly less likely to die from hyaline membrane disease, and had a better coagulation status, two factors which may account for the lower incidence of intraventricular haemorrhage in the stressed group." These results are discussed.

484. Thorpe, Helene S.: "Optimal Developmental Appraisal," *Developmental Medicine and Child Neurology*, 17:481-485, August, 1975.

Listed and discussed in this article are the six essential basic requirements of an optimal developmental profile. They are: "(1) Items screen specific concepts....(2) The norms should include the population group being served.... (3) The developmental inventory record should distinguish between observed data and information obtained from parental report....(4) The examiner should be prepared and supervised....(5) Narrative should summarise assets and needs.... (6) Quantitative measurement of developmental data should be correlated with health, behavior and environmental stresses."

485. Thorpe, Helene S., and Werner, Emmy E.: "Developmental Screening of Preschool Children: A Critical Review of Inventories Used in Health and Educational Programs," *Pediatrics*, 53:362-370, March, 1974.

The practical and technical aspects of five frequently used developmental screening inventories are compared. These five are the Denver Developmental Screening Test (DDST), the Head Start Developmental Screening Test and Behavior Rating Scale (HSDS), the Cooperative Preschool Inventory (CPI), the School Readiness Survey (SRS), and the Thorpe Developmental Inventory (TDI). Items in the five developmental inventories are compared in tables by the four categories of skills they assess. These four categories are gross motor abilities, communication skills, fine motor skills, and personal-social behavior. Also considered are the interpersonal aspects of developmental screening, and the importance of and variability in the training of examiners. The bibliography contains numerous references dealing with the five inventories compared.

486. Throop, Frank B.; DeRosa, G. Paul; Reeck, Charles; and Waterman, Susan: "Correction of Equinus in Cerebral Palsy by the Murphy Procedure of Tendo Calcaneus Advancement: A Preliminary Communication," *Developmental Medicine and Child Neurology*, 17:182-185, April, 1975.

This surgical technique is described as are results from 79 such surgical procedures on 48 patients. After a follow-up period of from one to four years on these patients, correction of equinus was found to be successful in 89.9% of the procedures. The Murphy procedure is felt to have the following advantages over other correction methods: "(1) no loss of 'push-off' in gait; (2) no loss of correction (recurrence) during longitudinal growth of the child, necessitating repeated surgery; and (3) no need for continual night bracing during the growth period."

487. Ting, Pauline, and Brady, June P.: "Tracheal Suction in Meconium Aspiration," *American Journal of Obstetrics and Gynecology*, 122:767-771, July 15, 1975.

Retrospectively studied regarding morbidity and mortality were the cases of 125 infants who were born through meconium-stained amniotic fluid. Of the 125 infants, 43 developed respiratory distress (symptomatic group) and eight of these 43 died. Eighty-two infants were asymptomatic. Many listed factors were investigated in these cases and compared between the two groups of infants. "The only difference between the two groups was a history of immediate trachael suction in the delivery room. Of 97 infants receiving immediate trachael suction, 27 became symptomatic and one died - an infant with Down's syndrome and endocardial cushion defect. On the other hand, of 28 infants who did not receive immediate trachael suction, 16 became symptomatic and seven died of massive meconium aspiration pneumonitis ($P < 0.001$). We concluded that in infants born through meconium-stained amniotic fluid, immediate trachael suction is a safe procedure that significantly lowers the morbidity and mortality rates and produces no further respiratory depression of the infant."

488. Tizard, Jack: "Early Malnutrition, Growth and Mental Development in Man," *British Medical Bulletin*, 30:169-174, May, 1974.

Issues discussed include nutrition and somatic growth; brain structure and function; psychological assessment; the relationship between intelligence and food deprivation in previously well-nourished people; the relationship between ecology, malnutrition, and development; comparison of ill-nourished and somewhat better nourished children; and the sequelae of severe malnutrition. Numerous studies are reviewed.

489. Tohen, Z. Alfonso: *Manual of Mechanical Orthopaedics*. Springfield, Illinois, 1973. 319 pp.

In the five chapters of this volume the principle characteristics and applications of prosthetic devices, orthopedic or orthotic devices, orthopedic shoes, crutches and canes, and wheelchairs are considered respectively. There are many illustrations of equipment and its usage. These illustrations are listed following the Table of Contents. There is a three-page list of references following the text and an index.

490. Tolman, Keith G.; Jubiz, William; Sannella, Joseph J.; Madsen, Jack A.; Belsey, Richard E.; Goldsmith, Ralph S.; and Freston, James W.: "Osteomalacia Associated with Anticonvulsant Drug Therapy in Mentally Retarded Children," *Pediatrics*, 56:45-51, July, 1975.

Reported is a study in which 67 patients out of 289 surveyed in a school for retarded children were found to have osteomalacia as defined. Methods of assessment are described. No significant differences were found between those patients with and without osteomalacia regarding age, sex, physical activity, exposure to sunshine, or intake of vitamin D. "However, all of the patients with osteomalacia were receiving anticonvulsant medications, either phenobarbital, diphenylhydantoin, or both. Duration of anticonvulsant therapy was the most important contributing factor, to the development of osteomalacia. Seventy-five percent of patients who had received anticonvulsants for more than ten years had osteomalacia. The single most costly medical problem at the school is the treatment of pathologic bone fractures due to demineralized bone." These findings are discussed.

491. Tomasovic, Jerry A.; Nellhaus, Gerhard; and Moe, Paul G.: "The Bobble-Head Doll Syndrome: An Early Sign of Hydrocephalus," *Developmental Medicine and Child Neurology*, 17:777-783, December, 1975.

Case reports are presented of "two hydrocephalic children with head bobbing which preceded by six months any other signs or symptoms of increased intracranial pressure." The literature is reviewed, the clinical features of previously reported cases are summarized in a table, and differential diagnosis is discussed. "Abnormalities of eye-movements, endocrine status, intellectual development and other possible neuromuscular dysfunctions, including CSF neurotransmitters should be carefully assessed. Detail neuropathological studies are needed to understand this syndrome better. The importance of early recognition of this unique but treatable neuropediatric condition is stressed."

492. Tsang, Reginald; Gigger, Mardi; Oh, William; and Brown, David R.: "Studies in Calcium Metabolism in Infants with Intrauterine Growth Retardation," *Journal of Pediatrics*, 86:936-941, June, 1975.

Studied and compared to a group of appropriate for gestational age (AGA) infants were 47 intrauterine growth retarded (IUGR) infants. In this investigation serum calcium (Ca) concentrations were determined at 12, 24, 48, and 72 hours of age, and neurologic signs and symptoms were observed as described. Results are presented regarding the comparison of serum Ca in the IUGR infants with that of the AGA infants, the clinical factors found to be related to serum Ca concentrations in the IUGR infants, the biochemical associations in hypocalcemia, and the serum Ca levels found in the IUGR infants having birth asphyxia. The results indicated that "the incidence of neonatal hypocalcemia in IUGR infants is not increased above the incidence expected from their respective gestational ages. Infants with IUGR who are well at birth do not develop neonatal hypocalcemia, but IUGR infants who are asphyxiated at birth develop significant hypocalcemia."

493. Turbeville, David F.; Heath, Richard E., Jr.; Bowen, Frank W., Jr.; and Killam, Allen P.: "Complications of Fetal Scalp Electrodes: A Case Report," *American Journal of Obstetrics and Gynecology*, 122:530-531, June 15, 1975.

A case report is presented of "fatal neonatal sepsis probably starting at the site where the scalp electrode was placed."

494. Turner, J.H.; Hutchinson, D.L.; Hayashi, T.T.; Petricciani, J.C.; and Getmanowski, J.: "Fetal and Maternal Risks Associated with Intrauterine Transfusion Procedures," *American Journal of Obstetrics and Gynecology*, 123:251-256, October 1, 1975.

A group of intrauterine transfusion (IUT) cases were followed in order to investigate fetal and maternal risks. Methods of evaluating the subsequent maternal complications and the physical, intellectual, and social maturity of the surviving children are explained. Of the children followed, 90% were examined after three years of age. Findings indicated that "the IUT survivors showed a marked correlation among the frequencies of abnormalities in the three areas measured: physical, intellectual, and social maturity. Only about 50 per cent were considered normal in these parameters of health. Maternal complications were observed in only 2 per cent of the cases."

495. Tutera, Gino, and Newman, Robert L.: "Fetal Monitoring: Its Effect on the Perinatal Mortality and Cesarean Section Rates and Its Complications," *American Journal of Obstetrics and Gynecology*, 122:750-754, July 15, 1975.

The results of direct fetal monitoring of 608 patients were analyzed regarding the perinatal mortality rate, the rate of cesarean section delivery, Apgar scores, and complications of such monitoring. Direct fetal monitoring is described. Of these 608 cases, 96% were considered to be 'high risk,' and the indications for monitoring are listed. Findings were compared to those of an unmonitored group of 6,179 patients. Both the total perinatal mortality rate and the incidence of fetal deaths after admission were reduced. There was a marked increase in the primary cesarean section rate in the monitored group (10.1%) as compared to the unmonitored group (4.8%), "but 107 cesarean sections were averted," due to the use of the fetal monitor. Low Apgar scores were found to correlate with fetal distress patterns, indicating that these patterns do illustrate the fetal status. Regarding complications, there was one case of uterine perforation and two cephalohematomas. Technical difficulties were minor and are described. Comment is made on the bright future of fetal monitoring.

496. Uauy, Ricardo; Shapiro, Donald L.; Smith, Barbara; and Warshaw, Joseph B.: "Treatment of Severe Apnea in Prematures with Orally Administered Theophylline," *Pediatrics*, 55:595-598, May, 1975.

Theophylline was administered as described to 12 premature infants with severe primary apnea. Monitoring and treatment procedures are explained. "There was a significant ($P < .005$) reduction in the mean daily number and the severity of apneic episodes after treatment. The only significant side effect noted was a rise in heart rate." "None of the treated patients required respirator-assisted ventilation during or subsequent to therapy." Findings are discussed.

497. Urrutia, Juan J.; Mata, Leonardo J.; Trent, Frederick; Cruz, José R.; Villatoro, Elba; and Alexander, Russell E.: "Infection and Low Birth Weight in a Developing Country; A Study in an Indian Village of Guatemala," *American Journal of Diseases of Children*, 129:558-561, May, 1975.

A study is described in which a long-term prospective investigation was conducted to determine the incidence of infections in pregnant women in a Guatemalan village and the influence of such infections on intrauterine growth. Findings are presented regarding the incidence of infectious diseases during pregnancy, the frequency of vaginal inflammation and infection during pregnancy, silent infections noted during pregnancy, and the outcome of pregnancy with infection.

498. Vaisman, Serfio L., and Gartner, Lawrence M.: "Pharmacologic Treatment of Neonatal Hyperbilirubinemia," *Clinics in Perinatology*, 2:37-57, March, 1975.

Two techniques of pharmacologic therapy for neonatal hyperbilirubinemia are reviewed. These are "(1) the use of certain drugs capable of stimulating the activity of hepatic enzymes and other steps in bilirubin metabolism and transport and (2) the administration to the infant of a substance which will bind bilirubin in the intestine, thereby reducing the intestinal reabsorption of bilirubin." Also discussed are possible risks of drugs used in neonatal hyperbilirubinemia therapy. Characteristics that the ideal drug to treat neonatal jaundice should have are listed. There are many studies mentioned, and there is a lengthy bibliography.

499. Van Petten, Garry R.: "Pharmacology and the Fetus," *British Medical Bulletin*, 31:75-79, January, 1975.

General principles and problems in fetal pharmacology are reviewed. The unanesthetized ovine fetus is presented as being a suitable model for fetal pharmacological research, and studies involving β-adrenoceptor responses in the ovine fetus are presented to demonstrate the unusual nature of the fetal response to drugs. Several problems in fetal pharmacology that have been identified from such studies are discussed, and future approaches are considered.

500. Vargas, Gladys C.; Pildes, Rosita S.; Vidyasagar D.; and Keith, Louis G.: "Effect of Maternal Heroin Addiction on 67 Liveborn Neonates," *Clinical Pediatrics*, 8:751-753+, August, 1975.

These 67 infants, born between January 1, 1969 and March 31, 1972 to heroin addicted mothers, are described regarding their clinical characteristics, signs and symptoms, laboratory findings, therapy, mortality, and disposition. Of these infants 52% were of low birth weight and 32% were small for dates. Twenty-five (39%) had head circumferences that were below the 10th percentile for gestation. Forty-one (61%) of the infants had withdrawal symptoms. Two of the infants had congenital anomalies. Eight (11.9%) of the infants died. "It is apparent that maternal addiction affects the fetus and causes serious problems in the neonatal period. Whether intrauterine exposure to heroin has far-reaching, long-term residual effects remains to be determined. We believe that prospective studies are indicated in order to evaluate the incidence of small head circumference, the pattern of intrauterine growth retardation and the correlation of these findings with later neurologic and behavioral development."

501. Velasco, Elba G.; Rosso, P.; Brasel, Joanne; and Winick, M.: "Activity of Alkaline RNase in Placentas of Malnourished Women," *American Journal of Obstetrics and Gynecology*, 123:637-639, November 15, 1975.

The literature is reviewed. Compared in this study were the pregnancies of 18 Ecuadorian, malnourished women of low socioeconomic class and 11 Ecuadorian women of high socioeconomic class who were not malnourished. All placentas were obtained after delivery, weighed, and analyzed for RNA, DNA, protein, and the activity of alkaline ribonuclease. Fetal and placental weights were found to be significantly lower in the malnourished women. Also among the findings was

that alkaline RNase activity was "markedly elevated" in the low socioeconomic group. "The data reinforce animal studies and demonstrate for the first time in human subjects that alkaline RNase activity is increased in placentas from malnourished women. We suggest that activity of this enzyme in placenta may prove to be a useful marker of maternal and fetal nutritional status."

502. Vidyasagar, Dharmapuri; Yeh, T.F.; Harris, V.; and Pildes, Rosita S.: "Assisted Ventilation in Infants with Meconium Aspiration Syndrome," *Pediatrics*, 56:208-213, August, 1975.

A retrospective analysis was conducted of 32 infants with meconium aspiration syndrome, as defined. Clinical data on these infants are presented as well as radiologic findings, and pH, blood gas analysis, and base excess data. Of these 32 infants, 17 developed respiratory failure, and 11 died. The findings "suggest that asphyxia and acidosis occur well before the infant is born and that intrapartum monitoring to recognize fetal asphyxia may help in improving morbidity and mortality from meconium aspiration syndrome."

503. Villanueva, Cesar, and Sauvage, Jacques P.: "Intrauterine Pressure Monitoring with a Balloon-Tipped Catheter," *Obstetrics and Gynecology*, 45:287-291, March, 1975.

Use of balloons for monitoring intrauterine pressure is historically reviewed. In a described study, 75 women in labor and two women undergoing midtrimester abortion were divided into five explained study groups in order to compare the extraovular balloon and the open-ended transcervical intraamniotic catheter as intrauterine pressure sensors. Findings indicated the many advantages of the small extraovular balloon sensor. "The transcervical extraovular water-filled 0.8-ml estane balloon is recommended for use in place of the open-ended transcervical catheter in all clinical situations in obstetrics in which there is a need for monitoring intrauterine pressure."

504. Virnig, Norman L., and Balfour, Henry H., Jr.: "Hemiatrophy and Hemiparesis in a Patient with Congenital Cytomegalovirus Infection," *American Journal of Diseases of Children*, 129:1359-1360, November, 1975.

A detailed case history is presented of a female child, age three at the time of writing, who had congenital cytomegalovirus (CMV) infection and in whom hemiatrophy and hemiparesis were first noted between six and nine months of age. "These unusual sequels of congenital CMV infection should encourage physicians to do longitudinal studies on infants with congenital CMV infection, as well as to examine children with hemiatrophy and hemiparesis for CMV infection."

505. Vogel, Harvey D.: "A Follow-Up Study of Former Student-Patients at the Crippled Childrens Hospital and School, Sioux Falls, South Dakota," *Rehabilitation Literature*, 36:270-273, September, 1975.

Described are the methods and results of a follow-up study of past student-patients at the above facility, which is a non-profit private hospital-school

for educable orthopedic physically disabled, South Dakota children between the ages of five and 21 years. A three-part questionnaire was used to obtain the data. Findings are presented regarding occupational status, marital status, "important experiences" of the past student-patients, and any additional comments they made on the questionnaire. Conclusions are presented, and implications for practice and for research are discussed.

506. Vorherr, Helmuth: "Placental Insufficiency in Relation to Postterm Pregnancy and Fetal Postmaturity," *American Journal of Obstetrics and Gynecology*, 123:67-103, September 1, 1975.

In this lengthy review article of current developments in this area, the placental aging process is described as an introduction to a discussion of the postterm gestation and its relation to the incidence of placental insufficiency, fetal distress, and postmaturity. The clinical symptoms of postterm pregnancy and postmaturity and the biochemical alterations in fetal postterm-postmaturity are considered as are the factors that influence gestational duration. Then the postterm placental pathophysiology is explained, and present methods of diagnosing postterm placental insufficiency and fetal postmaturity are described. Next there is a discussion of the uterine factors associated with postterm pregnancy and placental insufficiency. Much emphasis is then placed on the management of the postterm gravida. After the conclusions and considerations for the future are presented, there is a bibliography of 190 citations.

507. Wallace, Sheila J.: "Factors Predisposing to a Complicated Initial Febrile Convulsion," *Archives of Disease in Childhood*, 50:943-947, December, 1975.

Studied were 131 consecutive children, ages three months to seven years, admitted to the hospital because of a first febrile convulsion. Previous histories in these cases were complete. Of these 131 patients, 81 were stated to have "complicated fits" while 32 had "simple fits." A complicated fit was defined as being "one lasting more than 30 minutes, unilateral, or repeated within the same illness." Methods of study are explained. The findings indicated that "a significant excess of complicated attacks occurred where the age of onset was less than 16 months, where both family history of convulsive disorder and perinatal abnormality were present, and, in females only, where it was suspected that neurological disorder preceded the first fit."

508. Warshaw, Joseph B., and Uauy, Ricardo: "Identification of Nutritional Deficiency and Failure to Thrive in the Newborn," *Clinics in Perinatology*, 2:327-344, September, 1975.

The approach to this neonatal problem includes the identification of the condition, the development of an effective treatment program, and the determination of any morbidity that may have resulted. Prenatal influences on nutritional deficiency and neonatal failure to thrive are considered. Nutritional deficiency in the newborn is discussed in association "with: (1) decreased intake, (2) increased losses, (3) increased metabolic demand, and (4) decreased efficiency of growth." Examples are presented, and two cases are reported to illustrate failure to thrive in the neonate. There is a lengthy bibliography.

509. Weichsel, Morton E.: "Child Neurology in the Community Hospital Setting," *Pediatrics*, 53:895-899, June, 1974.

Data and conclusions are presented on "the first 100 private 'new-patient' consultations in child neurology seen by the author in a community hospital setting." Included among the data are the referral sources for these patients, the number of patients within specific age groups, and the diagnoses made on these children. Of these 100 patients, 17% were under one year of age and 33% under three years when first seen. Mental retardation with or without motor disturbances was diagnosed in 25 of the 100 children. Ten of these 25 also had convulsive disorders. Twenty-one children had convulsive disorders without mental retardation or other major neurological findings.

510. Weight, David G.; Cundick, Bert P.; and Pilling, E. Kent: "Comparison of Visual-Discrimination Ability of Brain-Injured and Non-Brain-Injured Children of Normal Intelligence," *Perceptual and Motor Skills*, 40:467-470, April, 1975.

A study is presented in which a set of 106 multiple choice geometric design cards were administered to 23 minimally brain damaged children and to 23 control children. These two groups were individually matched for age (4 to 12 years) and intelligence. Findings indicated "that brain-damaged children can be separated from controls on their ability to match geometric designs correctly. The data also support the frequent finding that brain-injured children have difficulty when designs they have seen are rotated or reversed." "The perceptual

errors based on rotation and reversal of the designs were far greater for the brain-injured subjects, yet it appears that factors which might distract the subjects from attending to the most relevant dimensions of the forms were even more important in creating performance differences between the two groups." "The data suggest the possibility of an easily administered and objectively scored instrument which is relatively independent of motor development in children."

511. Weigle, Joan W.: "Teaching Child Development to Teenage Mothers," *Children Today*, 3:5:23-24, September-October, 1974.

The New London Young Parents Program is described by its director. This program is sponsored by the Maternal and Child Health Section of the Connecticut State Department of Health. Girls (now mothers) in the program are between ages of 13 and 20 years. They exhibit a wide range of needs, interests and abilities. Most lack sustained interest in a formal study of children and know very little about developmental milestones. In many instances they had poor mothering themselves. Two major goals for their training include 1) developing knowledge about growth and behavior of young children and 2) to make them more "observing." Other aims for the mother include an increase in self awareness, developing self reliance, and attaining a feeling of self importance and control. Workshop activities are stressed. Much teaching is by "osmosis" as mothers observe good techniques in field trips to well-administered day nurseries, emphasizing what constitutes good discipline, and giving attention to the appreciation of one's own body.

512. Weingold, Allan B.; DeJesus, Tan P.S.; and O'Keiffe, Jane: "Oxytocin Challenge Test," *American Journal of Obstetrics and Gynecology*, 123:466-472, November 1, 1975.

The experience of the authors with the oxytocin challenge test (OCT) in 154 patients is reported. A total of 375 OCTs were conducted on these patients. Methods are described. Twenty-three tests were found to be positive, as defined, in 14 patients, and there were 11 suspicious tests in eight patients. Findings were correlated with other data available on the clinical complications of these pregnancies, antepartum indices of fetal well-being, meconium presence, and intrapartum fetal heart rate response. "Unsatisfactory (47 in 23 patients), false-positive, and false-negative tests are reviewed in detail. Since false-positive tests (47.9 per cent) are common whereas false-negative tests are rare (2.8 per cent), we conclude that the negative test is a reliable indication in high-risk pregnancies. Positive tests add to our data on the fetus and alert us to the need for a totally monitored labor." The advantages and disadvantages of the OCT are considered, and further discussion is conducted after the text by Drs. Edward H. Bishop, Edward J. Quilligan, Charles E. Flowers, Jr., Nicholas S. Assali, William N. Spellacy and Weingold.

513. Weinstein, Louis, and Taylor, E. Stewart: "Hemolytic Disease of the Neonate Secondary to Anti-Fy^a," *American Journal of Obstetrics and Gynecology*, 121:643-645, March 1, 1975.

A case report is presented of a neonate having hemolytic disease secondary to anti-Fy^a. Exchange transfusion was necessary. The literature was reviewed and revealed 18 previously reported cases. Of these 18 cases, 32 required exchange transfusion, and there was a neonatal mortality rate of 16%. "It is suggested that antepartum antibody screening include anti-Fy^a and that Duffy sensitization be managed in a manner similar to that of Rh sensitization, with amniocentesis being performed at the appropriate time. The blood bank should be notified prior to delivery of a possible affected fetus so that Fy^{a-b-} or Fy^{a-b+} blood can be obtained for exchange transfusion if indicated."

514. Wells, David H., and Zachman, Richard D.: "Nasojejunal Feedings in Low-Birth-Weight Infants," *Journal of Pediatrics*, 87:276-279, August, 1975.

A prospective 21-day study is presented in which 21 low-birth-weight infants were alternately placed in either a group receiving continuous nasojejunal (N/J) feeding (10 infants) or in a group receiving intermittent nasogastric (N/G) feeding (11 infants). Feeding methods are described. These two groups were then compared regarding cumulative weight gain, caloric and fluid intake, weight lost, blood chemistry, and complications. "Upon completion of the 21-day study, N/J infants were found to have had statistically better weight gain, caloric intake, and fluid intake ($p = 0.05$-0.001) during the early part of the study. Weight loss was less in the N/J group ($p < 0.01$). Neither had abnormalities of blood chemistry or significant complications. It is concluded that N/J feeding in the low-birth-weight neonate is a safe, effective means of early nutritional intake, with advantages most pronounced during the two weeks of life." Findings are discussed and the literature is reviewed.

515. Wennberg, Richard P., and Rasmussen, L. Fraser: "Effects of Gentamicin on Albumin Binding of Bilirubin," *Journal of Pediatrics*, 86:611-613, April, 1975.

Using various described methods, the effects of gentamicin on albumin binding of bilirubin and on the transport of bilirubin were investigated. "No significant interaction between gentamicin and bilirubin binding or transport was observed." These findings are discussed in relation to those from other related studies. This article is followed by two Commentaries on gentamicin. The first is written by Drs. Gerald B. Odell, Julio O. Cukier, and Apolo C. Maglalang and the second by Dr. George H. McCracken, Jr.

516. Westervelt, Van D., and Luiselli, James K.: "Establishing Standing and Walking Behavior in a Physically Handicapped, Retarded Child," *Physical Therapy*, 55: 761-765, July, 1975.

The case of an 11 year old retarded child is presented to illustrate the usefulness of behavioral methods in an ambulation problem and the effectiveness of using the physical therapist more efficiently in the role of consultant rather than in a direct treatment role. The child, the observations made, the treatment procedures used, and the results are described. "A physical therapist

using reinforcement procedures worked for three months with minimal success on pulling to standing and pushing off to walk as target behaviors for a physically handicapped retarded child. The physical therapist then changed his role and used an attendant staff to work on the target behaviors in a two-and-one-half month treatment program. Pretreatment and posttreatment time sampling of the child's on-feet behaviors under specified conditions demonstrated a marked increase in on-feet behaviors following the treatment program."

517. Wexler, Jerry R.; Swender, Phillip T.; Tunnessen, Walter W., Jr.; and Oski, Frank A.: "Impact of a System of Computer-Assisted Diagnosis," *American Journal of Diseases of Children*, 129:203-205, February, 1975.

The MEDITEL system of "computer assisted diagnosis was evaluated for its ability to hasten the time to initial diagnosis and reduce laboratory studies." Included in the study were 34 experimental and 33 control hospitalized pediatric patients in whom a diagnosis had not been clearly established upon admission to the hospital. The MEDITEL form was completed for all the patients. The printout was made available to the physicians of the experimental children within 24 hours of admission, but no printouts were given to the physicians of the control children. A number of findings were compared. In the experimental group the average time to diagnosis was 1.9 days while in the control group this average time was 2.8 days. "In a small group in whom the diagnosis was not established until after 48 hours, there was a further trend to reduction in number of days to diagnosis and irrelevant laboratory studies."

518. "When a Mother Smokes During Pregnancy, Will it Affect Her Baby?" *Clinical Pediatrics*, 13:485-486, June, 1974.

"The Health Consequences of Smoking" was a 1973 report issued by the Public Health services. In considering maternal cigarette smoking during pregnancy, set forth is a "significant relationship between this addictive habit and smaller newborns" plus "higher late fetal and neonatal mortality rates." Reportedly only a minority of cigarette smoking women of child bearing age "stop smoking while pregnant." Delivery of a low birth weight infant is nearly twice as likely in the smoking mother. Smaller infants of smoking women grow faster during the first six months of life - as compared to infants of non-smokers. No firm evidence shows a relationship between maternal cigarette smoking and congenital malformations. Nicotine passes into breast milk "in trace amounts only and no acute effect on the nursing infant is established." From laboratory experiments, "exposure to tobacco smoke or some of its ingredients," e.g. nicotine, "will raise the stillbirth rate significantly in animals."

519. Wilbur, Susan: "Foam Rubber Sidelying Support for Children with Cerebral Palsy," *Physical Therapy*, 55:1345, December, 1975.

A cut-out foam pillow used to maintain cerebral palsied children in the sidelying position, and its usage with a three-year-old child are pictured. The construction of this pillow is described. It has been found to be of use both at school and at home, where parents may place the child in the pillow for sleep.

520. Williamson, Alice P.: "The Varicella-Zoster Virus in the Etiology of Severe Congenital Defects," *Clinical Pediatrics*, 14:553-555+, June, 1975.

The literature is reviewed and a survey of 11 reported cases is conducted, including laboratory findings, clinical findings, and diagnostic difficulties. "From recent reports and a survey of the literature it appears reasonably certain that congenital anomalies can be rare but serious consequences of V-Z infection early in pregnancy, whether the infection occurs in the form of chickenpox or herpes-zoster." Of the 11 cases reviewed, brain damage was seen in seven and there was hypoplasia of specific areas of the limbs and trunk in six.

521. Windorfer, A., Jr.; Künzer, W.; Bolze, H.; Ascher, K.; Wilcken, F.; and Hoehne, K.: "Studies on the Effect of Orally Administered Agar on the Serum Bilirubin Level of Premature Infants and Mature Newborns," *Acta Paediatrica Scandinavica*, 64:699-702, September, 1975.

Two concentrations of agar were added to the milk consumed for eight to ten days by 366 premature infants and mature neonates. There was a control group of infants who received no agar. All infants were further subdivided into seven listed groups. "On none of the groups tested did the serum level of bilirubin show a significant decrease after administration of agar. Therefore the attempt to lower the level of serum bilirubin in premature and newborn infants by inhibiting enteric reabsorption by means of adsorbents must be considered a failure."

522. Windorfer, Adolf, Jr.; Faxelius, Gerd; and Boréus, Lars O.: "Studies on Phototherapy in Newborn Infants," *Acta Paediatrica Scandinavica*, 64:293-298, March, 1975.

Studies were conducted on newborn infants, on rabbits, and on blood and plasma in vitro. Procedures are described. Data are presented on the binding of both bilirubin and salicylate before and after phototherapy in the newborns, of whom 15 were given phototherapy from two to four days for hyperbilirubinemia of uncertain etiology. Five infants were controls and received no phototherapy. Also studied was the effect of light on acetylsalicylic and esterase. Similar comparison experiments were conducted on the rabbits and on blood and plasma in vitro from adult male volunteers. The phototherapy in the neonates was found "to result in an increase in hematocrit values and in the activity of the erythrocyte enzyme acetylsalicylic acid esterase. The evaluation of the enzyme activity also could be produced in light-treated rabbits and in vitro after illumination of blood from adult volunteers. The binding of bilirubin to serum albumin and of salicylate to plasma proteins did not alter, nor did the concentrations of albumin or total proteins in plasma. It is concluded that light does not increase the unbound fraction of bilirubin in blood." Findings are discussed.

523. Winick, Myron, ed.: *Nutrition and Fetal Development*. New York: John Wiley & Sons, 1974. 188 pp.

This volume is based on the Symposium on Nutrition and Fetal Development which was held in New York in November, 1972. At this Symposium much experimental data on this subject was presented and discussed. Conclusions reached at the

meeting from these experimental studies are summarized in the Preface of this volume. The nine chapters of the book contain the presentations made at the Symposium and include descriptions of changes seen in normal fetal development as a result of intrauterine or fetal malnutrition. Individual chapters are concerned with the cellular, biochemical, and pathophysiologic changes. Early postnatal and late postnatal consequences of fetal malnutrition are also separately considered. In Chapter 6 the Prenatal Project and its first 20 months of operation are explained. This Project "is a randomized controlled trial of the effects of prenatal nutritional supplementation on birth weight and subsequent development of children born to mothers chosen from a poor, black American population, with high rates of low birth weight and perinatal mortality." References follow each chapter, and the volume is indexed.

524. Wolfrum, R.; Bordasch, Ch.; and Holweg, J.: "An Endocrine Model for the Diagnosis of Intrauterine Growth Retardation as Demonstrated by the Determination of Total Estrogen and Pregnandial 24-Hour Urinary Excretion in 222 At Risk Pregnancies," *Journal of Perinatal Medicine*, 3:248-259, 1975.

In this study 2211 estrogen and pregnandiol determinations were conducted in 222 at risk pregnancies with methods described. There were four assumptions upon which the study model was based: "1. Estrogen excretion is a fetal and not a fetoplacental parameter; 2. Pregnandiol excretion is a parameter of placental nutritive function; 3. Fetal compensatory capacity; 4. Placental compensatory capacity." Four risk groups were proposed. "The frequency of SGA infants increases from risk group I (normal excretion of both hormones, no SGA infants) through risk group II (only pregnandiol excretion pathological, 11.5% SGA newborns) and risk group III (only estrogen excretion pathological, 26% SGA infants) to risk group IV (both hormone excretions pathological, 55.4% SGA infants). The degree of risk can be estimated with our model. Risk group II indicates slight, beginning EPH gestosis. Treatment in time maintains normal estrogen excretion with frequently low pregnandiol values. If control and treatment are neglected the picture frequently changes to Group IV and danger to the fetus is considerably increased." Thus the necessity of early diagnosis and prevention is stressed. "If we consider it our aim to diagnose all cases with placental insufficiency, if possible before injury to the fetus is severe, then we must not only have hormonal control but also hormonal preventive control."

525. Wood, Gary P., and Sherline, Donald M.: "Amniotic Fluid Glucose: A Maternal, Fetal, and Neonatal Correlation," *American Journal of Obstetrics and Gynecology*, 122:151-154, May 15, 1975.

Glucose content was determined in 53 samples of amniotic fluid from 41 patients. The patients were divided into two groups: Group A had amniotic fluid glucose levels of less than 30 mg. per 100 ml. (26 patients), and Group B had amniotic fluid glucose levels of 30 mg. per 100 ml. or greater (15 patients). In Group B there were 11 patients who were known to have diabetes mellitus, while in Group A there were no patients with diabetes mellitus. Six infants (40%) from Group B developed significant hypoglycemia within the first 48 hours of delivery, and the mothers of all six had overt diabetes. "Another four (27 per cent) showed serum glucose levels of 20 to 40 mg. per 100 ml. during the first 48 hours after delivery in spite of early intravenous or oral glucose administration. Three of these infants were products of diabetic mothers but the mother of the fourth had

no apparent aberration of glucose metabolism except recurrent glycosuria. No infants from Group A had recorded serum glucose levels of less than 30 mg. per 100 ml. and none showed signs of hypoglycemia." Findings and implications for management are discussed.

526. Wu, Paul Y.K.; Modanlou, Houchang; and Karelitz, Mayenne: "Effect of Glucagon on Blood Glucose Homeostasis in Infants of Diabetic Mothers," *Acta Paediatrica Scandinavica*, 64:441-445, May, 1975.

In order to investigate whether glucagon, when administered shortly after birth, can prevent hypoglycemia in infants of diabetic mothers (IDM), 30 IDM were randomly selected for study. They were divided into three treatment groups with ten infants in each group. Group A were controls and received no glucagon. Group B received glucagon 300 μ g/kg intramuscularly within 15 minutes after birth. Group C received glucagon 300 μ g/kg intravenously via the umbilical vein within 15 minutes after birth. Further care is described. "Hypoglycemia developed in 6 infants in Group A and 4 infants in Group B. None of the infants in Group C had hypoglycemia. Mean blood glucose was higher in Group C in the first 3 hours than Group A, and higher in Group B in the first 1/2-1 hour. I.V. glucagon, 300 μ g/kg when given in the first 15 minutes after birth prevented hypoglycemia in IDM in the first hours of life."

527. Yanaihara, Takumi; Iwahara, Kozue; Okinaga, Shoichi; Arai, Kiyoshi; Soma, Masaaki; Ogawa, Nobuhisa: "Determination of Estrogens in Pregnancy Urine by Hemoagglutination Inhibition Reaction," *American Journal of Obstetrics and Gynecology*, 123: 700-704, December 1, 1975.

This "rapid and simple" method of estimating estrogens in pregnancy urine is described and compared to other methods. Findings by the study method showed a good correlation with the other methods. The advantages of this test are discussed. "It seems to be useful as a screening test for high-risk pregnancies, where fetal well being is suspected of being endangered."

528. Ylkorkala, O.; Kauppila, A.; and Pennanen, S.: "Human Placental Lactogen Levels During and After Labor," *Obstetrics and Gynecology*, 46:204-208, August, 1975.

Human placental lactogen (HPL) levels were determined in 225 blood samples obtained as described before, during, and after labor from 35 patients of whom 16 had normal pregnancies, 14 had preeclampsia and five had benign intrahepatic cholestasis of pregnancy. Fetoplacental function was regarded as being either normal, abnormal, or suspicious as defined. Resultant data are presented. "Our findings indicate that there is a relation between fetoplacental dysfunction and low HPL level, and the fall in the level was somewhat greater in mothers with fetal distress than in mothers with normal fetoplacental function. However, in only 1 of 7 cases of dysfunction was the fall of 3.5 μ g/ml great enough for diagnostic use. Although our test (Phadebas) is a rapid one, permitting measuring of HPL within 1 hour, it is improbable that the HPL test will have some value as a monitor of fetoplacental function during labor. Fetal scalp blood samples for measuring of fetal pH and bioelctronic investigation methods are more rapid and accurate than any HPL test."

529. Zackai, Elaine H.; Mellman, William J.; Neiderer, Bettina; and Hanson, James W.: "The Fetal Trimethadione Syndrome," *Journal of Pediatrics*, 87:280-284, August, 1975.

The children of three families whose mothers took trimethadione during pregnancy for epilepsy are described and pictured. "From a comparison of siblings in each family, and of others exposed to trimethadione in utero, a specific phenotype is delineated. Features included in the fetal trimethadione syndrome are developmental delay, speech difficulty, V-shaped eyebrows, epicanthus, low-set ears with anteriorly folded helix, palatal anomaly, and irregular teeth. Additional anomalies in some of the patients include intrauterine growth retardation, short stature, microcephaly, cardiac anomaly, ocular anomaly, hypospadias, inguinal hernia, and simian creases." The literature is reviewed.

530. Zehrbach, R. Reid: "Determining a Preschool Handicapped Population," *Exceptional Children*, 42:76-83, October, 1975.

Described in this article is "CIP, a comprehensive identification process for locating, screening, and evaluating young (3 to 5 year old) handicapped children." This process was developed through the University of Illinois at Champaign-Urbana and has been evaluated on over 700 children. CIP is defined, its rationale is described, and the CIP model is presented. Results with CIP are compared to those from the traditional agency referral method, and conclusions on CIP are listed. "The CIP process results in the identification of many more children with mild to moderate problems than identified through the traditional agency referral method. This is of particular importance to those concerned with developing programs designed to prevent and/or ameliorate the development of handicapping conditions."

531. Zigler, Edward, and Seitz, Victoria: "On 'An Experimental Evaluation of Sensorimotor Patterning': A Critique," *American Journal of Mental Deficiency*, 79:483-492, March, 1975.

A critique is presented of a previously published article by Neman, et. al. (1975 bibliography) which describes a study the results of which supported the effectiveness of the sensorimotor patterning method of treatment. This critique points out the defects believed to be in the Neman study, including the method of subject selection, methods of statistical analyses, and methods of data interpretation. "It is the reviewers' opinion that the Neman et. al. (1975) study does not meet the high standards against which it must be assessed. Furthermore, the study may not only prove to be of no practical help but instead could actually prove to be harmful in our overall efforts to aid retarded persons and their families. It is in fact this concern, rather than any desire to engage in empty methodological one-upmanship, that motivated the reviewers to prepare this critique." This critique is followed by "A Reply to Zigler and Seitz," by Ronald Neman on pages 493-505.

532. Zuspan, Frederick P.; Gumpel, Janis A.; Mejia-Zelaya, Alfonso; Madden, John; and Davis, Roy with the technical assistance of Margaret Filer and Adel Tiamson: "Fetal Stress from Methadone Withdrawal," *American Journal of Obstetrics and Gynecology*, 122:43-46, May 1, 1975.

The program of care for the pregnant drug addict that is used at the Chicago Lying-in Hospital is explained. "It is an interagency, interdepartmental program among the Department of Obstetrics and Gynecology at The Chicago Lying-in Hospital, the Departments of Pediatrics and Psychiatry at The University of Chicago, and the Illinois Drug Abuse Program (IDAP) special treatment unit for pregnancy." The case of a patient who was begun on the methadone detoxification program in the midtrimester of pregnancy is then presented. Serial amniocentesis was performed to monitor the amine response of the fetus during the detoxification program. During the treatment of this patient when the methadone was decreased, the fetus displayed a marked response of the adrenal gland (epinephrine) and the sympathetic nervous system (norepinephrine). This response "was blunted when the methadone dose was increased." The authors wish to alert others "who treat pregnant drug-addicted patients that detoxification during pregnancy, especially in the last trimester, is potentially hazardous to the fetus." It is thus not recommended unless the fetus is biochemically monitored.

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